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# Australian Orchid Review



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## From the Editor's Desk



### Welcome to the year 2000!

There is certainly a "slipper orchid" influence in this issue. Firstly Gary Yong Gee has provided an in depth account of a fairly common but delightful species found in most orchid (and gardeners) collections – *Paphiopedilum insigne*. I vividly remember the annual sight of the well-flowered specimen grown by Mrs Reid (my Uncle Stephen's mum) when I was still in single figures. She grew it on her front porch in amongst some favourite ferns and other plants. Mrs Reid passed away many years ago, but we still grow part of that plant in her memory, yet still cannot bloom it like she did!

Stephen Early from Victoria shares some basic information on the cultivation of paphiopedilums, which will prove most helpful – particularly to novice growers. Graeme Banks also gives us some practical tips on deflasking slipper orchids. These notes are also pertinent for many other genera as well. We are also privileged to have a great photograph of *Paphiopedilum armeniacum* flowering in the wild. Well-known botanist and author Phillip Cribb (from Kew Gardens, U.K.) took this shot.

Ros Capell gives us all the results from the 1999 Ira Butler Awards. As readers would know, last issue we had a "scoop", as the winner – *Dendrobium Yondi Tina* 'Goliath' featured on the front cover plus we had an article on this choice plant by owner Bernie Fletcher. These are sought after awards, which always receive a large number of quality entries. Congratulations to Bernie, and to Norm and Kay Mitchell from northern New South Wales who won the Bill Murdoch Trophy with their colourful *Dendrobium tetragonum* 'Bellingen'.

*Dendrobium falcorostrum* is one of Australia's finest orchid species. Whilst being a delight in flower, it also has strongly scented blooms, which are an added bonus. David Butler, from Green Vista Orchids, shares his "secrets" on growing this cool growing orchid.

Helene Wild is one of Australia's finest botanical artists. We are pleased to be able to showcase some of her work, mostly of Australian terrestrial orchids, in this issue. Helene is the Editor for ANOS Victoria's fine monthly journal.

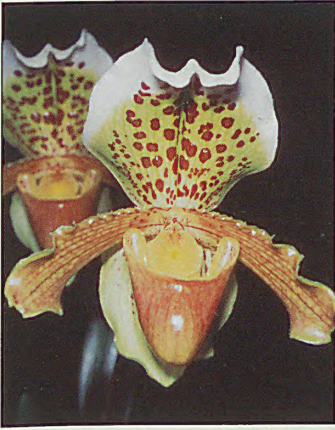
I am pleased to announce that Orchidaceous Books are again trading, now with new owners Grahame and Margaret Muller from Queensland. Sadly Grant Smith and Christine had to sell the business after Grant's accident. This again fills an important niche in the orchid world for those into orchid literature. In Australia, we are fortunate to have both Orchidaceous Books and the Australian Orchid Foundation as suppliers of fine orchid texts.

**David P. Banks**

Editor, *Australian Orchid Review*  
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## OUR COVER



*Paphiopedilum insigne* 'Harefield Hall'

A choice cultivar of one of the most popular and easily grown slipper orchids in cultivation. Read Gary Yong Gees in depth review of this variable and adaptable species, starting on page 4. Plant – Hills District Orchids  
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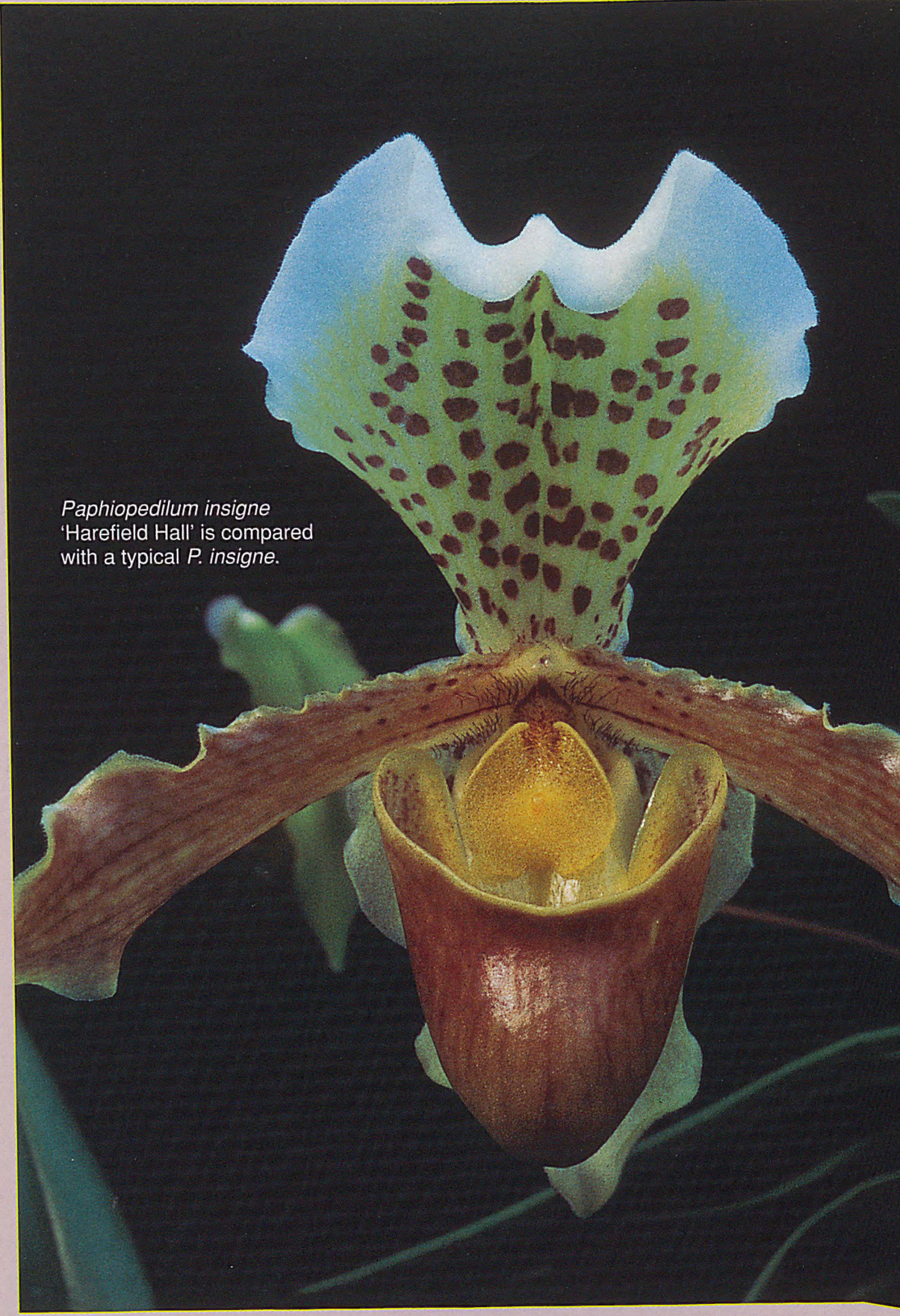
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*Paphiopedilum insigne*  
'Harefield Hall' is compared  
with a typical *P. insigne*.



# *Paphiopedilum insigne* (Wall. ex Lindl.) Pfitz.

Text and photography by Gary Yong Gee



**J**ohn Lindley described *Cypripedium insigne* in 1821 in *Collectanea Botanica*. His description was based on a plant from the Liverpool Botanic Garden that was collected by Nathaniel Wallich in Sylhet, northeast India. Ernst Pfitzer transferred it to *Paphiopedilum* in *Pringsheim, Jahrbücher für wissenschaftliche Botanik* in 1888.

### Habitat

At altitudes between 100-1,500 m elevation, *P. insigne* is found growing amongst humus on limestone outcrops. Usually it is located near waterfalls in the light shade of shrubs. It is restricted to northeast India (Meghalaya, Khasia Hills).

During the summer monsoon season temperatures fluctuate between 20°C at night and 30°C during the day. The humidity is high with heavy rain. In winter, temperatures range from 4°C at night and 19°C in the daytime. The relative humidity varies from 60-75%.

### What does it look like?

*Paphiopedilum insigne* is known to be a highly variable species. Plants consist of short stems with 5-6 strap-shaped leaves in two ranks. The light green leaves are 20-30 cm long and 2.5 cm wide. They are often spotted purple at the base on the underside. The tips are obtuse and minutely bilobed. Some rare cultivars have variegated leaves with longitudinal white stripes. Inflorescences up to 25 cm long are pale green usually with a purplish pubescence. The stem and leaves are often pure green in the yellow-flowered cultivars. It has a single flower 7-10 cm across.

The plant that Lindley first described is known as the "type." Its dorsal sepal was pale green with a white apical margin. There were numerous raised purple-brown spots on the greenish portion of the inner surface of the dorsal. The petals were yellow-brown, veined and netted with red-brown and the lip was greenish tinged with olive-brown. James Curtis's painting of the type shows a few red-brown spots at the base of the petals on the lower edge. Its synsepalum is illustrated as being pale green with some purple-brown longitudinal stripes and spots in the basal half.

Plants such as this, which come from the type collection area (see photo), are sometimes known as var. *syhetense* Hort. Rolfe (1895a) says that it is "characterised by having very numerous dark spots, which are somewhat confluent in lines along the middle." I do not think that these warrant varietal status.

### *P. insigne* (type form)

**Flower size:** 7-8.5 cm across the petals.

**Segments:** Undulate with the dorsal sepal flat except at the apex.

**Dorsal:** White unspotted apical margin. Pale green with greenish veins with

numerous raised purple-brown spots in vertical lines.

**Synsepalum:** Pale green with small purple-brown spots in lines on basal half.

**Petals:** Yellow-brown, veined and netted with red-brown.

**Lip:** Greenish tinged with olive-brown.

Many cultivars have been described and some of these names are still often seen in cultivation. In this article I am trying to clarify some of the cultivars of *P. insigne*. This is not intended to be a comprehensive listing. I have chosen some that have been in cultivation for many years and others that are unusually coloured.

### What are the problems?

In the past, cultivars (or clones) were described as varieties. However, the terminology has changed and modern taxonomists now prefer to refer to them as cultivars. For example, what was once described as *P. insigne* var. *sanderæ* should now be called *P. insigne* 'Sanderæ'.

In the case of *P. insigne* the flowers vary in size, colour and spotting and identifying

the cultivar may be confusing. In addition, some descriptions of individual cultivars are incomplete, thus leading to further confusion. I have seen plants incorrectly labelled and so part of the purpose of this article is to help to distinguish between the different cultivars. In other words "don't believe a label – check it out yourself."

*P. insigne* flowers have a base colour which varies from green through to yellow. However, the base colour is often masked by the presence of brown spots. I therefore think it is easiest to divide them into two main groups – those with a yellow/green pouch and those with a brown pouch. Generally those with a yellow/green pouch do not have prominent spotting but most of the brown ones do.

### Cultivars with a Brown Pouch

'*Albomarginatum*' was first illustrated in the *Orchid Album*, V. t. 232 of 1886. It was described as having large showy flowers distinct from the type due to the yellow tinge. The upper third of the dorsal sepal was pure white, forming a margin. This narrowed and continued nearly to the base



*Paphiopedilum insigne*. This cultivar probably comes from Sylhet, the region of the type species.



and lacked spotting. The lower two-thirds was greenish-yellow traversed by light brown veins. There were scattered spots of a pale reddish brown on the coloured portion. The spots near the centre midline were larger than the others. Its petals were rawny-yellow with numerous parallel reddish brown veins, without spots. The ventral sepal was pale washy yellowish-green marked only with green veins. The pouch was described as "palish red-brown."

Robert Rolfe (1895a) described it as having distinctly yellowish flowers with the dorsal sepal broadly margined all round with white. Rolfe goes on to add that the dorsal had spots, being rather light in colour and entirely limited to the yellowish-green disc.

More recently Guido Braem (1988) illustrated var. *albomarginatum* with a photograph of what I would consider to be close to the typical *P. insigne* (see above). The photograph has lots of small reddish-brown spots on the greenish dorsal sepal with a white apical margin. The spots almost look as if they are in vertical lines. The pouch is clearly a reddish-brown.

Braem does not discuss this variant preferring to consider it a cultivar or minor variation of *P. insigne*.

Benjamin Williams (1894) described 'Albomarginatum' as having the dorsal sepal almost entirely margined with white and devoid of spots. His description is incomplete and is based on the figure in the *Orchid Album*. Sanders' (1927), J. Murray Cox (1946) and Keith Bennett (1984) also describe this cultivar as being yellowish and without any spotting. These later authors however failed to check the original description in the *Orchid Album* where it is clearly described as having spots on the yellow-green portion of the dorsal sepal.

I have seen a number of plants labelled 'Albomarginatum', but they seem to me to be 'Royalty' (see below). This is particularly so in view of the fact that 'Royalty' has a greenish-yellow pouch, not the reddish-brown described in the *Orchid Album*. In fact I don't think that 'Albomarginatum' still exists.

'Bonhofianum' lacked maroon spots on the dorsal sepal. Instead it was shaded

purplish brown from the base to the middle. Above this there was a light green zone and an apical white margin. This cultivar was originally imported from India by Messrs. Sander and Co. in the late nineteenth century. It no longer seems to be in cultivation, but *P. insigne* 'Jack' (see photo) seems similar.

'Chantini' was considered by Sanders and also by Williams as being synonymous with 'Punctato-violaceum'. Veitch (1887-1894) described 'Chantini' as having flowers equal in size to those of the type but with the segments less undulate and differently coloured. The dorsal sepal had the broad white margin extending nearly half way down and nearly to the base at the sides. The spots on the white area were a "beautiful mauve purple." The synsepalum was longer, more acute and usually with a whitish tip. The petals and lip were glossier with the petals having deep amber veins and the pouch being bright chestnut-brown. The opening of the lip was broader than the type.

Rolfe (1895a) said that 'Chantini' appeared among a number of imported plants purchased by the Parisian nurseryman Mr. Chantin from James Veitch and Sons. He described it as having a larger dorsal than 'Maulei' (see below) which it otherwise resembled. The green area was smaller so as to leave a few clear purple spots along the sides. Max Garnier (1891-1894) said that 'Chantini' was easy to distinguish when viewed from the side because the dorsal sepal was incurved in front while in other cultivars the dorsal is nearly straight. He adds that the abundant purple-brown spots are often arranged in four longitudinal lines and become violet-purple when they extend into the white area at the top. It was also named 'Veitchianum' in 1875, indicating that different owners may have changed some of the cultivar names at various stages. Alternatively different cultivars or clones may have been involved.

#### *P. insigne* 'Chantini'

**Flower size:** Equal to the type.

**Segments:** Less undulate and differently coloured.

**Dorsal:** Larger than 'Maulei'. Incurved at front. Broad white margin extending nearly half way down and nearly to the base at the sides. Smaller green area. Purple brown spots in longitudinal lines, becoming violet-purple at the base of the white margin. Mauve purple spots on the white area along the sides.

**Synsepalum:** Pale green with longitudinal stripes and spots in basal half.

**Petals** glossier with deep amber veins

**Lip:** Bright chestnut-brown. Opening broader than the type.

'Harefield Hall' is a splendid and very large cultivar with boldly shaped flowers (see photo). It was awarded a First Class



*Paphiopedilum insigne* 'G&S' is distinguished by the broad, flat dorsal sepal.



Certificate by the Royal Horticultural Society in 1897. The dorsal sepal is pale yellow with large chocolate spots, broadly margined with pure white. The edge of the dorsal is recurved at the base. The lip and petals are yellowish-green, veined and suffused with rich brown. Its petals have a few small spots towards the base. This magnificent cultivar is still seen in cultivation and is known to be a triploid. Instead of a chromosome count of 26 it has 39, which gives it larger flowers. For this reason it was much used by early hybridisers who also liked its strongly coloured flowers.

***P. insigne* 'Harefield Hall'**

**Flower size:** Larger than type. 10cm across the petals.

**Segments:** Less undulate with the base of the dorsal recurved.

**Dorsal:** Broad white unspotted margin. Pale yellow with greenish veins and large chocolate spots.

**Synsepalum:** Pale yellow green with small red-brown spots in lines on basal half.

**Petals** Yellowish green veined rich brown. Few small spots towards the base.

**Lip:** Yellowish green suffused rich brown.

'Le Doux' was described as being intermediate between 'Bonhofianum' and 'Albomarginatum'. There were some faint brownish lines on the green area of the dorsal sepal with a broad white margin. The petals were yellow with some obscure brownish markings, with the lip lighter than usual. I don't think this cultivar still exists.

'Maulei' was imported to England by Messrs. Maule and Sons of Bristol. It first flowered for them in 1860 when it was awarded a First Class Certificate by the Royal Horticultural Society. Veitch compared it with 'Chantinii', saying that it had larger flowers with the dorsal sepal more arched and the sides recurved near the base. There was a broad wide margin confined to the apical half of the dorsal sepal. The petals were more undulate along the margin and paler in colour. When compared with 'Chantinii' its lip was narrower and longer and also lighter in colour.

Garnier described 'Maulei' as having a broad dorsal sepal a little reflexed near the base, with a broad white border at the apex. There were numerous spots extending above the green portion of the dorsal sepal, with the clear olive-green lip being broad and long. Garnier also listed *P. insigne* 'Albomarginatum' as being synonymous with 'Maulei'. Williams mentions that the foliage is shorter and smaller. He describes the dorsal as being pure white on the upper half, heavily and regularly spotted with purple above and purple-brown below. Compared with the typical *P. insigne* the spots are larger and bolder giving the flower a richer colour. He concludes by saying that the lip is broader and light olive brown.



This *Paphiopedilum insigne* was incorrectly labelled 'Maximum' (see article). I don't know its correct name.

***P. insigne* 'Maulei'**

**Flower size:** Larger than 'Chantinii' and the type.

**Segments:** Undulate with the dorsal slightly recurved near the base.

**Dorsal:** Broad, arched forward and recurved near base. Broad white apical margin with some purple-brown spots. Pale green below with regular purple-brown spots. Spots larger and bolder than the type.

**Synsepalum:** Not described.

**Petals** Undulate and paler than 'Chantinii'.

**Lip:** Olive green to light olive-brown. Broader than the type and long. Narrower, longer and lighter than 'Chantinii'.

'Maximum' was said to be one of the finest cultivars and of very large size. Williams (1894) says Desbois described it as having a very large dorsal sepal. It was undulate, clear green striped with dark green and spotted with brown. There was a large white portion at the top spotted with violet. Its broad petals were olive-

green shaded and netted with clear brown. It had a wide yellow lip shaded with yellowish-brown.

Ten years ago I photographed a plant labelled 'Maximum' (see photo). However looking at it now it doesn't seem to match the description above. Maybe it is yet another case of an incorrectly labelled cultivar.

'Montanum' was first illustrated in volume 3 of *Lindenia*. This name was applied to a number of plants that varied in form and particularly colour. It was from 1887 onwards that Jean Linden's firm of L'Horticulture Internationale imported a series of *P. insigne* to Europe that were known as var. *montanum*. Eight different cultivars were described and illustrated together in volume 4 of *Lindenia*. They varied from one cultivar in which the spots were large and of a bright colour, to another in which the spots were only just visible and a pale brownish yellow colour. In general these were large-flowered and





*Paphiopedilum insigne* 'Jack' seems close to *Paphiopedilum insigne* 'Le Doux', except for some spots along the centre line.

grand cultivars with broad dorsal sepals. They had broad white margins at the apex with numerous spots of variable size either in lines or scattered on the dorsal. I do not think that they differed sufficiently to warrant varietal status. To avoid confusion I suggest that only the first cultivar illustrated (in volume 3) should be designated 'Montanum'. See also the cultivars 'Albomarginatum', 'Lindeniae', 'Montanum Albomarginatum' and 'Oddity' discussed elsewhere.

**'Montanum Albomarginatum'.** Another cultivar named 'Albomarginatum' from the var. *montanum* was illustrated in volume 4 of *Lindenia*. Alfred Cogniaux (1894-1898) described it as having a very broad dorsal sepal with a white margin with the rest yellowish-green and distinctly striated with very clear green. Numerous irregular deep purple spots covered the yellow-green portion with the spots shading to violet at the base of the white border. The synsepalum

was distinctly longer and wider than the pouch, rounded at the apex and of very clear green, somewhat shaded yellowish and obscurely striated with a darker green. In addition the synsepalum was covered with a rather short series of lines consisting of small purple-brown dots or dashes. The yellowish petals were shaded with red-brown and distinctly marked with numerous longitudinal deep purple veins that were often interconnected by transverse lines of the same colour. There are some pale brownish spots at the base of the lower edge of the petals in the illustration. The labellum was somewhat widened at the top, reddish-brown and slightly shaded yellow near the top and only obscurely veined.

Since two different cultivars were given the same epithet (see 'Albomarginatum' above) I suggest that the later one be called 'Montanum Albomarginatum' to avoid confusion. In both cases the cultivars named 'Albomarginatum' were spotted

forms of *P. insigne*. 'Montanum Albomarginatum' is probably no longer in cultivation.

**'Oddity'** had the petals shaped like the lip. They stood forward and clasped the lip on each side. It first flowered in the collection of Mr. W.M. Appleton of Weston-super-Mare. One flower was normal with five others having the petals transformed into lips. A photograph of this flowering was published in the *Orchid Review* in 1895. Rolfe believed it to be one of the *montanum* forms (see 'Montanum').

#### Cultivars with a Yellow/green Pouch

**'Laura Kimball'** originated from Messrs. Hugh Low & Co., Clapton Nursery and belonged to Mr. W. S. Kimball of Rochester, U.S.A. His collection was said to be one of the most complete collections of *P. insigne* variations known. Rolfe compared it with 'Sanderæ' but instead of being greenish-yellow it had a clear buff-yellow colour with the white apex to the dorsal sepal. In addition there were some brown hairs at the base of the petals. It is probably not in cultivation any more.

**'Lindeniae'** was named in honour of Lucien Linden and was imported to Belgium amongst a batch of plants that were referred to as var. *montanum* (see 'Montanum'). It was noticeably different from other plants in having a pale green inflorescence instead of the usual dark purple. The broad dorsal sepal was pale greenish-yellow, slightly striated with darker green. There were a few pale, only slightly visible, bronze spots that extended into the apical white border. Its synsepal was as long as the pouch, broader, very pale green with numerous darker green striations. The yellow petals were strongly arched near the base and veined greenish. Only slightly widened at the aperture, the lip was a very bright shiny yellow. This cultivar is probably no longer in cultivation.

**'Royalty'** resulted from the crossing of *P. insigne* 'Laura Kimball' and *P. insigne* 'Sanderæ'. 'Royalty' has yellow-green flowers with a white edged dorsal sepal without brown spots (see photo). Fresh flowers are greenish-yellow with darker green veining on the coloured portion of the dorsal sepal. The flowers become more yellow with age. I have not seen this cultivar bench during recent years. I suspect that they may have been incorrectly labelled as *P. insigne* var. *albomarginatum*. 'Royalty' has a large flower that is comparable to 'Sanderæ' in size. I have seen this cultivar sometimes referred to as the *sanderianum* form, due to its purity and lack of spotting. See 'Sanderianum'.

#### *P. insigne* 'Royalty'

**Flower size:** Around 8cm across.

**Segments:** Undulate with the dorsal



slightly recurved near the base.

**Dorsal:** Broad white apical margin that narrows and extends close to the base. Pale yellow-green with greenish veins and no brown spots.

**Synsepalum:** Pure pale yellow green.

**Petals** Yellowish green veined darker green.

**Lip:** Yellowish green. Shorter compared with 'Royalty'.

'Sanderæ' had beautiful primrose yellow flowers except for the upper portion of the dorsal sepal being pure white, and a few minute brown specks present in the centre of the yellow portion of the dorsal. The undulate petals were sulphur-yellow and these segments plus the lip showed little venation. It's history is a little obscure; however Williams mentions that it was first imported to England by Messrs. Sander & Co. and named in honour of Mrs. Sander. Baron Schröder of Staines near London was the first to acquire the single plant. *P. insigne* 'Sanderæ' is still commonly seen in cultivation (see photo).

#### *P. insigne* 'Sanderæ'

**Flower size:** Around 8cm across.

**Segments:** Undulate with the dorsal sepal slightly recurved at the base.

**Dorsal:** Broad white apical margin. Pale yellow-green with greenish veins and several fine brown spots in the centre. The flower becomes more yellow with age.

**Synsepalum:** Pure pale yellow green.

**Petals** Yellowish green veined darker green.

**Lip:** Yellowish green. Longer compared with 'Sanderæ'.

'Sanderianum' was close to 'Sanderæ' but smaller in size and different in shape. The dorsal sepal was shorter and rounder. The yellow colouring was more yellow-green and the brown specks were absent. Baron H. Schröder was among the first to own this cultivar. It was awarded a First Class Certificate by the Royal Horticultural Society in 1900. This cultivar probably no longer exists.

#### *P. insigne* 'Sanderianum'

**Flower size:** Smaller than 'Sanderæ'.

**Segments:** Less undulate. The dorsal was flatter and less recurved.

**Dorsal:** Broad white apical margin that narrowed at the sides and extended more

than half way. Pale yellow-green with greenish veins, without any spots.

**Synsepalum:** Pure pale yellow green.

**Petals** Yellowish green veined darker green.

**Lip:** Yellowish green. Deeper compared with 'Sanderæ'.

#### Cultivation

*P. insigne* is often recommended as a beginner's orchid because it is easy to grow. In keeping with its natural habitat it requires bright light, good air circulation and excellent drainage. Shading of 60-70% is suggested for most growers in Australia. If your plants do not flower regularly it may be because of insufficient light. Deep green, floppy leaves indicate poor lighting, which may result particularly if grown underneath the bench. Spreading, medium to light green leaves with strong upright growths reflects the ideal.

Most growers have found a medium-grade, bark-based potting medium suitable. The addition of charcoal, perlite, gravel or polystyrene granules is also common. Some growers have also been successful with a sphagnum moss medium. It



*Paphiopedilum insigne* 'Sanderæ' has a few fine brown specks on the dorsal sepal.



*Paphiopedilum insigne* 'Royalty' does not have any brown spotting.



is important to maintain the root system by regular repotting, which may be required every 2 years. During the warmer months watering needs to be frequent to keep the mix evenly moist. Depending upon environmental conditions this may need to be 2-3 times a week. In winter the pots can be allowed to approach dryness before the next watering.

I think that a cooler, drier winter rest of 4-6 weeks is important for this species. Flowering may not occur if temperatures remain above 12-15°C. A suggested minimum of 5°C and a maximum of 30°C is recommended. It will withstand cool winter nights if the leaves are dry. Growers in areas subject to heavy winter rain may do better with plants under cover. At the other extreme, high humidity and good air movement are necessary if temperatures go above 30°C.

#### Acknowledgment

I would like to thank Rudolf Jenny of Switzerland (RJenny@compuserv.com) for help regarding references and description, via his Orchid literature database, LITBUL.

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- \* Bennett, K.S. (1984) *The Tropical Asiatic Slipper Orchids*. Angus & Robertson, North Ryde, Sydney.
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*Paphiopedilum insigne* 'Reg' has faint spotting and is similar to *P. insigne* 'Lindenlae'



# Growing Paphiopedilums

by Stephen Early

## Introduction

Paphiopedilums or slipper orchids have long been regarded as one of the true aristocrats of the orchid world. They grow in Asia and through a wide range of altitudes. They are generally found in nature growing on the forest floor in leaf litter or on rock, often limestone rocks with moss and generally where the plants are continuously kept moist. Often they are not exposed to full sunlight but can be found in conditions of bright light, not always in dull shade. This will give us a good indication of how to grow these orchids. Keep the moisture up but allow for good drainage and give a reasonable amount of light.

## Growing Media

I grow my plants in a bark-based mix

with the addition of about 15% kununda shell and 10% granite chips. I vary the size of the bark using 3-5mm for pots up to 100mm and 5-10mm for larger pots. The shell and granite provide a couple of functions. It helps create similar conditions for those that grow on rocks and keeps the mix "sweet" by neutralising any acid build up. With this mix I find very few plants without healthy root systems. I repot and replace with fresh mix every two years.

## Watering and Feeding

To keep the plants moist, I water all my slipper orchids whenever they need it, from every day in summer to about once a week in winter. My plants are fed four out of every five waterings with the other flushing the pots of any chemical build up. I only feed with week fertiliser when I

water and do not use any slow release fertilisers in the mix. The one time I tried this I found marked increase in root loss.

## Growing Conditions

I grow my plants in an aluminium-framed glasshouse, which I heat in the cooler months. This house is lined with Merricks cloth and covered in 50% shade cloth. The plants grow on a wet bench for smaller plants or on wire benches above corrugated fibreglass that holds water all year round. The reason for this is that these conditions provide high humidity around the plants, similar conditions to how they grow in nature. Before I had the room in the glasshouse I grew all my slippers inside the house on the dining room table. The light was filtered through the windows by thin nylon curtains. This is a bright room in our house. The pots were placed on saucers with small stones on them. I then watered the slippers letting the water run into the saucers. When the water evaporated from the saucers I watered the plants again. The saucers supplied local high humidity around the plants. It is important that any plants inside are not placed near a heater, as this will be an area of low humidity. My glasshouse is heated with an electric heater to a minimum of 12°C. When growing the slippers inside I was still able to win ribbons at shows.

## Types of Paphiopedilums

They can be broken down into a number of different groups and the taxonomists have had great fun dividing the species into subgenus groups and then into species and then dividing the species into new species. Generally you can break most paphiopedilums into a small number of separate groups. The multi-flowering paphiopedilums produce a number of flowers at the one time. Two beautiful and popular examples are *P. rothschildianum* and *P. phillipinense* - plus their primary hybrid, *P. Saint Swithin*. These often require heat and generally like good light. The sequential flowering paphiopedilums flower with many flowers but in these cases generally one flower opens as the other dies. Good examples of this are *P. glaucophyllum* and *P. primulinum*. These plants can be in flower for over a year. The rest are single flowered species and can be broken up into loose subgroups such as the brachypetalums, the "Maudiae" type species, the Chinese *Parvisepalum* species etc.

On the show bench we divide the slippers up into a number of groups. The



*Paph. Susan Booth 'Jannine'*. Grower: Hills District Orchids, Photo: D.P. Banks



species are generally given their own section. The hybrids are broken up into a number of groups. One group is for the exhibition paphiopedilums, which are one of my favourites. These are the most highly developed group and produce a single large round well filled flower. They are the end result of breeding programs that have a definite aim and have stood the test of time. In the larger shows they are often broken up into colour groups.

The other classic group of paphiopedilums are the "Maudiae" type hybrids. These are hybrids that are similar in shape to the cross *P. Maudiae*, which is a cross between *P. callosum* and *P. lawrenceanum*. They are characterised by large round-striped dorsals often with down swept petals. There are many hybrids that almost fit into this category and are sometimes judged in and at other times left out.

The third group are the primary hybrids. These are crosses between two species. There are some magnificent primary hybrids, including *P. Saint Swithin*, *P. Gold Dollar*, *P. Iantha Stage* and *P. Transvaal*. There are also many primary's that don't seem to be any better than their parents and I often wonder why they were made. But then again, most growers have purchased a number of these hoping they will produce something special.

Novelty Hybrids are those crosses that generally have one parent a species while Developmental Hybrids are any hybrids that do not fit into any of the above groups and it is not uncommon for both groups to be lumped together.

### Propagation of Paphiopedilums

Paphiopedilums can be grown from seed in the same way as other orchid genera. Most experienced slipper growers will have raised a number of seedlings from flask. Seedlings are fairly easily obtainable but costs vary, depending on how hard it is to get seed from a cross and how rare the parents are. Plants made with Chinese slippers tend to be more expensive as generally they do not produce much seed. The other way to obtain plants is to purchase divisions from another grower. Unfortunately paphiopedilums cannot be mericloned in the same way as many other popular orchid genera. This means that the only way you can obtain a piece of a top *Paphiopedilum* is to get a division. As a consequence divisions of awarded plants are well sought after and tend to be expensive. Fortunately most of the top clones do not lose their value, so make sound investments.

### Preparing Plants for Showing

Paphiopedilums have a big advantage in that they need little work to prepare them for a show. As with most genera this is particularly true of the good clones. Inflorescences will often need to be



*Paph. Oriental Venus 'Trim'*. Grower: Mal Myers, Photo: D.P. Banks

staked. Tissues can be used to force petals back as can green twisty tie, cotton buds, foam wedges etc. We tend to show our plants in a cane basket, as it is easier to cart them and we can show them off to their best advantage. Baskets for major shows hide ugly pots, plastic bags and a large number of other sins. If it is a long show we will double pot the plants with a plastic bag in between the pots. A little water in the pots will keep the root system moist

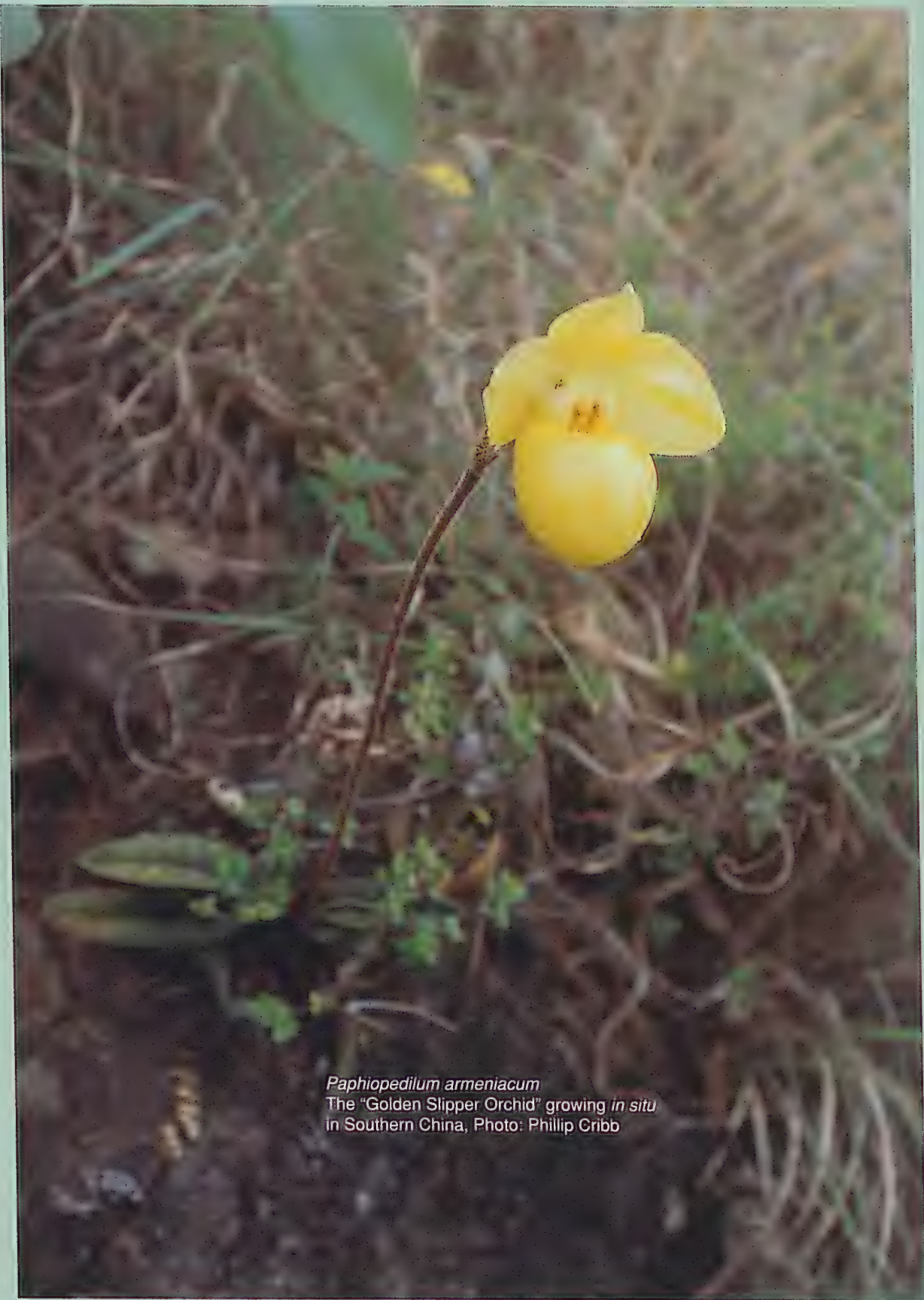
and stop the plants going backwards. Remember the golden rule for showing any plants (and slippers are no exception) - it is up to the grower to display their plants to their best advantage. I am sure anyone growing these plants will find them most rewarding and easy to grow and flower.

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*Paph. Transvaal*. Grower: Hills District Orchids, Photo: D. Titmuss





*Paphiopedilum armeniacum*  
The "Golden Slipper Orchid" growing *in situ*  
in Southern China, Photo: Phillip Cribb



# *Paphiopedilum* (Slipper) Orchids – Deflasking Seedlings

by Graeme Banks

I have been growing this wonderful genus for over 30 years – with main emphasis being on what are known as the complex hybrids. This article is written with the complex hybrids in mind (however the principles apply for all of the other ‘sections’ within *Paphiopedilum* eg novelty (“Maudiae”) types, species etc.). These are the flowers often seen on the show-bench – and sometimes unkindly referred to as “dinner plates”. The good flowers are very imposing and have won many a Grand Championship over the years.

Slipper orchids, as I will refer to them from now on, cannot be commercially propagated by the meristemming process, which is used so very well with other orchid genera and with horticultural plants generally. As a consequence, good clones command a high price because of the strong demand that exists for them, so if you happen to flower a ‘champion’ you have a plant that is quite valuable.

Remember that all of the ‘champion’ plants were once seedlings, so the serious growers endeavour to have a lot of seedlings coming on at all times. Apart from the difficulties of obtaining viable seed from some clones due to the complexity of the genetic make-up of these hybrids (some clones will not breed or will give only a limited amount of seed) there is the added factor that from any seed pod the percentage of high quality clones will be low. They can range from the few good ones, through reasonable clones which you do not know if you should keep them or get rid of them, a lot that are good to give away to friends and relatives and finally some which can only be described as ‘dogs’ and which are fit only for the garbage bin. The few good ones make it all worthwhile, however it is very important that from any flask of seedlings you raise every one if you can – Murphy’s law suggests that the good ones will be the ones which will not make it to flowering.

Over the years I have deflasked many slipper seedlings and have had my good experiences as well as the bad. I have tried all of the suggested methods of the day ranging from placing the whole group of seedlings, agar and all, into the community pot to smothering the young plants in fungicide. However over recent years I have followed a system that works very well for me. It is somewhat controversial so I have never suggested or recommended to anyone that they should do



*Paph. Lynette Banks 'Northmead'*



*Paph. Kathryn Cutler 'Lynette'*





*Paph. Melissa Day 'Northmead'*

what I do – nor will I recommend to the reader that my procedures, which are very simple, be followed. I will be simply outlining what I do!

First of all though I should mention that I prefer to deflask in spring for obvious reasons however if the condition of the plants in the flask dictates I will do it at any time (eg maybe there is contamination in the flask!). Also I prefer, and this is a personal thing, to deflask when the roots of the young seedlings have just reached the bottom of the agar – when they first hit the bottom of the flask. I have deflasked quite small seedlings as well as some

which have overgrown the flask however the easiest to handle are though with strong but short roots – you do not have the trouble of trying to separate the roots which can cling together with tenacity. Obviously the less damage done to the root systems, the better the plants will face the outside world.

The plants are shaken from the flask (or the flask is smashed if they plants are large) into a container of water. I use tap water (Sydney's water seems good for plants – it is only bad at times for humans!). I then take a pot large enough to hold all of the seedlings when they are

placed in rows – such should not be too deep. (Mature plants like some depth to their pots – seedlings do not need the depth and in fact such can lead to problems later on.). I prefer not to use new pots – a pot in which a slipper orchid has grown previously is the ideal for me. The pot is filled to about 7/8th of its depth with medium grade bark to which has been added some 'old mix' taken from around a mature slipper. In practice when I am repotting the mature plants I also keep some of the mix for use in this manner. It is sieved to remove the fines before being used. This is to transfer beneficial fungi to the "new" mix.

I then take the seedlings one at a time and place them in rows working from one side of the pot to the other filling in between them with fine grade bark. The fine grade helps to hold them in place well and also assists with extra moisture retention. When all of the seedlings are in place and the nametag has been added, I give them a good drenching with the garden hose (a soft flow is obviously necessary). The community pot then goes into the slipper-growing house along with its siblings and the mature plants. From then on it is treated just like I would a mature plant except that I am more conscious not to let the moisture level drop too low. They need to be moist all of the time (not wet though!)

The slippers are grown in a house with a fibreglass roof. It is open to the east and north – it does have some protection to the west and south (up to about 2 metres) but is otherwise open up to the roofline. By open I mean shade cloth is in place. The conditions are good for slippers – no direct sun but relatively strong light, air movement and a moist buoyant atmosphere. They are on benches only 40-50cm from ground level.

I have found with slipper seedlings that they love to be "disturbed" and moved into new mix so don't leave them too long without attention. Twelve months is too long – I prefer to redo them every six months. Avoid the growth of moss on the tops of pots, as this indicates the mix has become more acid – which few slipper orchids appreciate.

It is not easy these days to obtain flasks of slipper seedlings with good potential, so if you do get one (or some) it is obviously necessary to bring every seedling through to flowering. This is of course an ideal, which even experienced growers cannot achieve because some of the runts from a flask are not meant to mature.

All plants owned by Hills District Orchids with photos by my son David. ■

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*Paph. Sunwillow 'Ringlet'*



# Ira Butler Awards for 1999

by Roslyn Capell

## THE WINNER OF THE GOLD IRA BUTLER TROPHY – 1999

for the Champion Australian Native  
Orchid Hybrid of the Year is

*Dendrobium Yondi Tina 'Goliath'*  
FCC/AOC-NSW, FCC/ANOS

This superb orchid was the Grand Champion of the ANOS Warringah Group Inc. Spring Show this year, when it received its First Class Certificate from the ANOS judges: the first FCC ever awarded by ANOS. The following week it was awarded an FCC by judges from the Orchid Society of New South Wales and AOC. It was the winner of the Gold Ira Butler Trophy in 1997, when it was awarded an AM/ANOS. The plant carried five large inflorescences of fully open deep golden yellow flowers of excellent quality. This plant was featured in the previous issue of the *Australian Orchid Review* (Volume 64(6): Dec.1999-Jan.2000), where it also graced the front cover.

The plant is owned by Bernie Fletcher and was bred by Sid Batchelor. It is *D. Nerang* 'Tina' x *D. Star of Gold* 'Bathurst'. It contains the following species in its breeding – *D. i25%*, *D. falcorostrum* 25%, *D. tetragonum* 25%, *D. fleckeri* 12.5%, *D. kingianum* 6.25%, *D. jonesii* 6.25%.

Of the 36 plants nominated this year, 13 were from ANOS groups, 13 from State Affiliated Societies, 5 from State Societies, 3 were awarded plants and one each from NOSSA and the Dungog Show.

The following ten "runners up" will receive Silver Ira Butler Trophies:

*Dendrobium* Border Sunset 'Helen' – Norm & Kay Mitchell (Hybridiser: Stewart Penman)

*Dendrobium* Jesmond Charm 'Abbey' HCC/AOC, HCC/ANOS – Brian Miller (Hybridiser: John Purvis)

*Dendrobium* Kardinia – Henk van den Berg (Hybridiser: Reg Sheen)

*Dendrobium* Kayla 'Top Cat' – Colin Brandon (Hybridiser: Colin Brandon)

*Dendrobium* Star of Riverdene 'Tumbi' – Down Under Native Orchids (Hybridiser: N. Finch)

*Dendrobium* X delicatum 'Pink Betty' – Down Under Native Orchids (Hybridiser: N. Finch)

*Dendrobium* (Elegant Heart x Kathking) 'Tracy' HCC/AOC-NSW –



*Dendrobium Yondi Tina 'Goliath'* (photo D.P. Banks)

Bernie Fletcher (Hybridiser: N. Finch)

*Plectochilus* Harlequin 'Court Jester', AD/ANOS, AD/AOC-NSW – David Butler (Hybridiser: David Butler)

*Pterostylis* Sentinel – Alan & Doreen Garner (Hybridiser: Les Nesbitt)

*Sarcophilus* First Light 'Splash' – Rob Lewry (Hybridiser: N. Finch)

The following entries will receive Ira Butler Certificates:

*Dendrobium* Anne's Rainbow Surprise – Alan & Ada Kelly

*Dendrobium* Avril's Gold 'Gold Flame' – Bill Fisher

*Dendrobium* Brinawa Charm – G. & M. Hazeldine

*Dendrobium* Candy 'Moonraker' – Frank Vernon

*Dendrobium* Duno Burgundy Sheen 'Taylah' HCC/AOC-NSW – Bernie Fletcher

*Dendrobium* Duno Superlocks 'Sylvia' – Paul Wheeler

*Dendrobium* Duno Vivspot – Frank Vernon

*Dendrobium* Elegant Nancy 'Phyllis' – Albert Sherwood

*Dendrobium* Graham Hewitt – David & Pat Harmer

*Dendrobium* Hilda Poxon 'Joan Martin' HCC-ACC/AOC-QOS – M. & K. Martin

*Dendrobium* Hilda Poxon 'Oakville' – Norm & Kay Mitchell

*Dendrobium* Jayden – Alan & Bibi Baker

*Dendrobium* Kayla 'Eva' – Rob Lewry



*Dendrobium* Red Ballerina – Michael Harrison

*Dendrobium* Star of Riverdene 'Jeanie' – John Douglas

*Dendrobium* Stunning 'Amy' – Alan & Bibi Baker

*Dendrobium* Tawhai – Barry & Beattie Khann

*Dendrobium* Tie-Dye 'Magic Moment' – Norm & Kay Mitchell

*Dendrobium* Vintage 'Candy' – Norm & Kay Mitchell

*Dendrobium* (Brinawa Charm 'Plum' x *falcorostrum*) – M.J. Britton

*Dendrobium* (Gillian Leaney x Nunkumbil) – Iris & David Freeman

*Sarcophilus* Cherie's Wine – John Douglas

*Sarcophilus* First Light 'Hangover' – Rob Lewry

*Sarcophilus* Melody 'Measels' – Colin Brandon

*Sarcophilus* Victoria 'Yannie's Quest' – David & Leeanne. Brown

## THE WINNER OF THE BILL MURDOCH TROPHY – 1999

for the Champion Australian Native  
Orchid Species of the Year is

*Dendrobium tetragonum* 'Bellingen'

This splendid plant was grown by Norm & Kay Mitchell, and was Reserve Champion at the Coffs Harbour Orchid Society show. As the description on the nomination form states, it was very eye catching. The shape and colour of the flowers are excellent, and it is an exceptional example of *Dendrobium tetragonum* var. *tetragonum*.

There were 26 plants nominated, 8 of which were known to be line bred, and two of which had received awards. There was a good cross-section of genera represented, with more dendrobiums nominated than any other.

The following will receive Bill Murdoch Certificates:

*Caladenia longicauda* – Rod Steer

*Caladenia splendens* – Merv Miles

*Dendrobium agrostophyllum* 'Butter Cup' – Gerry Walsh

*Dendrobium bigibbum* 'Jessie' – Albert Sherwood

*Dendrobium bigibbum* 'Top Hat' AM/ANOS – Henk van den Berg

*Dendrobium kingianum* ('Cherries' x 'Corrigan's Red') – Tom & Ross Fitzgerald

*Dendrobium kingianum* 'The Bellingier' – Norm & Kay Mitchell

*Dendrobium speciosum* var. *grandiflorum* – Michael Denning

*Dendrobium speciosum* 'Windy Too' – Henk van den Berg

*Dendrobium tetragonum* – Graeme & Margaret Jones

*Dendrobium tetragonum* – Norm & Kay Mitchell

*Dockrillia nugentii* 'Jeffrey' AM/ANOS – Fred Fear

*Dockrillia striolata* 'Kenthurst' – Rob Lewry

*Dockrillia teretifolia* – Noel Oliver

*Dockrillia wassellii* – Noel Oliver

*Plectorrhiza tridentata* – George Barrett

*Pterostylis baptistii* 'Gosford' AD/ANOS – George J. Nieuwenhoven

*Pterostylis curta* – Gordon & Coralie Hime

*Pterostylis gibbosa* – Graeme Bradburn

*Pterostylis revoluta* – Ian & Karen Charlesworth

*Sarcophilus falcatus* 'Strewth' – Gerry Walsh

*Sarcophilus fitzgeraldii* – L. Fagg

*Sarcophilus hartmannii* 'Cascade' – Rob Lewry

*Sarcophilus hartmannii* 'Red Coral' – Kevin Wilson

*Sarcophilus hartmannii* ('George' x 'Eric Marygold') – Alan Stephenson

Roslyn Capell,

Hon. Secretary

Ira Butler Trophy Committee

P.O. Box 899

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*Dendrobium tetragonum* 'Bellingen' (photo N. Mitchell)





*Den. falcorostrum* 'Fran' (plant D. Butler, photo D. Titmuss)



*Den. falcorostrum* 'Fran' CC/ANOS (plant D. Butler, photo D. Titmuss)

## Thoughts on Growing *Dendrobium falcorostrum*

by David Butler

**D***endrobium falcorostrum* is a native of ancient Australian beech forests, remnants of which are located sporadically along the higher parts of the Great Dividing Range in Northern New South Wales and Southern Queensland. Usually found above 1000 metres elevation, these forests are often shrouded in heavy mist and may even be subjected to infrequent winter dustings of light snow.

Hardly the place to go looking for native Australian dendrobiums, but it is here exclusively in these cool, exposed places that we find one of the showiest of them all. In fact, this orchid seems quite dependent on the Antarctic Beech (*Nothofagus moorei*), for survival even though it is

occasionally found growing on other hosts.

Fortunately most of the remaining stands of beech trees are being preserved, thus hopefully ensuring the survival of *D. falcorostrum* in nature. The word 'hopefully' is relevant because this is one of the most sought after and beautiful indigenous Australian orchids. Its many attractions include a dazzling floral display of heavily perfumed pristine white flowers, neat compact growth habit, and relative ease of culture.

Considering the isolated nature of the various colonies of *D. falcorostrum* the flowers throughout its range are remarkably similar. As with most orchids some

variation does occur, the sought after plants being those that flower prolifically year after year and have larger flowers of heavy texture which open flat. One thing they all have in common is the strong but pleasant perfume most noticeable on warm mornings, a trait which is frequently passed on to its hybrids.

A valuable orchid in hybridising, *D. falcorostrum* crosses readily when used as the pollen parent but is itself reluctant to form seed capsules. Although it has only a white colour to contribute in hybridising, it is surprising how often it draws out unusual colours from the other parent. Investigation will sometimes show that these colours are coming from a genera-



*Den. falcorostrum* 'Goliath' - mounted on treefern 18 months ago (plant and photo D. Butler)



*Den. falcorostrum* 'Fran' - plant out of bloom on treefern log (plant and photo D. Butler)





*Den. falcorostrum* growing on horizontal branches, Wauchope region, NSW (photo B. Fletcher)



*Dendrobium falcorostrum* – Painting by Helene Wild

tion or two back on the pod parent's side.

The normal culture of *D. falcorostrum* consists of potting in a bark/pebble mixture or mounting the plant on the side of a piece of tree fern. Both these methods usually give good results provided, in the case of potted plants, that the mix remains open and free draining. For those growers seeking greater cultural success it may be worth trying a minor variation of the mounted method, which has proved most successful.

Some years ago the author was given a plant of *D. falcorostrum* on the proviso that it be mounted on top of a flat rock or piece of tree fern and hung from the bush-house roof. The first option lacked appeal on several grounds and anyway, the latter seemed much easier to accomplish. The plant was duly placed in a small depression in the top of a tree-fern log, securely tied on with stocking, and the log then suspended some 600mm below 50% shade-cloth with some additional shade in summer.

From that point on the effect was not much short of amazing. Roots grew rapidly and penetrated into the hard, tightly compacted fern fibres and the small cluster of pseudobulbs doubled in number. This doubling process continued each year until the plant was gaining some fifty new growths annually. Root growth also was rampant but all roots were confined within the log. The extent of this root growth was only revealed when the plant was finally removed and broken up as no roots were ever visible on the exterior of the fern mount. They did not even come to the surface and go back in again.

Since then, other plants of *D. falcorostrum* have grown well on horizontal tree-fern mounts, although it must be admitted that the occasional plant did not take readily to the fern and preferred pot culture. Shown in the photographs is the

method now favoured by the author, the sought after result being a large evenly grown specimen covered all over with lovely wide-open scented white flowers. The plant of *D. falcorostrum* 'Fran' CC/ANOS pictured reproduces this eye-catching floral display each year.

The best way to understand the cultural requirements of a species orchid is to refer

to its natural habitat and host, which in the case of *D. falcorostrum* is quite specific. The Antarctic beech tree thrives in the cool, moist mountaintops where fresh moving air abounds. The thick spongy bark is always damp, the robust trunk and substantial horizontal limbs being the favoured home of *D. falcorostrum*.

It is this liking of moisture that probably accounts for horizontal tree fern mounts being a suitable substitute host, as these drain well yet remain damp for long periods. A very small amount of wetting agent added to the initial watering will assist if the mount is drying out too quickly, but overdoing this will render the mount ineffective. The orchid has grown well on both soft and hard tree fern, logs of some 250mm diameter and 450mm long seeming fine provided they have a thick cover of fern root fibre. These logs may be cut in half longitudinally to lighten the weight and to give a flat underside, an advantage during transport and when exhibiting at orchid shows.

The orchid seems also to relish the company of the rock felt fern (*Pyrrosia rupestris*) or similar fern species. Ferns such as hares foot and birdsnest, which can 'take-over', should be weeded out. A growth of moss on the mount does not appear detrimental, nor has it been deemed necessary to correct acidity even after several years.

The more exposed to light the better the flowering as shown in the photo of a dead beech still partially adorned with ill-fated *D. falcorostrum*. Should your conditions suit and protection be given from hot westerly winds you too may find this lovely orchid a delight to grow.



*Den. falcorostrum* growing on dead Beech trees, Wauchope region, NSW. Sadly, as the bark peels off, these plants will fall to the ground and perish. (photo B. Fletcher)

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# *Eria javanica* (Sw.) Blume

*Eria javanica* is an extremely wide-spread species that occurs from the Sikkim Region of India through Burma, Thailand, Peninsular Malaya, Laos, Sumatra, Borneo, Java, the Philippines, Sulawesi, Ambon and New Guinea. Being such a widespread species it has accumulated many synonyms, including *Eria stelata* Lindl., *E. fragrans* Rchb.f., *E. rugosa* (Blume) Lindl., *E. cochleata* Lindl., *E. striolata* Rchb.f., *E. vaginata* (Breda) Benth and *Dendrobium perakense* Hook.f.

*E. javanica* is often regarded as the type of the genus *Eria*, but there is room for considerable debate on this, particularly as it is a rather aberrant species in the genus. *E. pubescens* Hook.f. is also in contention for "type" status and perhaps other species as well.

*E. javanica* is currently in the section *Eria*, a relatively small group with perhaps six to ten species, most from New Guinea. The group is unusual in *Eria*, in having convolute leaves. This refers to the formation of the young leaf when it is folded in the developing bud. The edges of convolute leaves are overlapping, while the edges of duplicate leaves may meet but do not overlap. J.J. Smith and Schlechter considered this (and other) characters so important that they created separate sections (*Convolutae* J.J. Smith and *Goniorhabdos* Schlechter). Schlechter considered this section should be placed in a separate sub genus – *Enellieria*. As long as this species is regarded as the type, the name of the section in which it is placed must be *Eria*. The one thing to emerge from all this is that *E. javanica* (and its relatives) are quite different to the rest of the genus.

This species is a large robust clump-forming epiphyte or lithophyte that occurs at a range of altitudes from sea level to over 2000m. It grows in open or shady situations and is a common species in many areas of Southeast Asia. The pseudobulbs are more or less ovoid, 5 to 10 cm long. There are two (rarely three) lanceolate leaves up to 50 cm long and 10 cm wide at the apex. The erect inflorescences are up to 60 cm long, arising from the side of the pseudobulbs. There are numerous star-shaped, strongly fragrant flowers, each about 4 cm across. They last about a week and flowering (in cultivation in Townsville) is in winter. In the natural habitat there are usually several flowerings each year.



Warm to intermediate climates are recommended, although plants from higher elevations may grow in cool climates. A well-drained pot or basket of a medium that retains a little moisture has proved best. Year round watering is suggested, but a slightly drier period in winter may be beneficial. Semi-shade, high humidity and good air movement are recommended.

Plants that have striped flowers are sometimes labelled "*E. striolata*" in collections. Some plants in cultivation in Australia are labelled "*E. lyoni*", but this is an unrelated species from the Philippines.

## Further reading

\* Comber, J.B., 1990. *Orchids of Java*. Bentham-Moxon Trust, Royal Botanic Gardens, Kew.

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**B**orn into an artistic family, I cannot remember a time when I did not paint. Even as a child, the subjects I found most appealing were the flowers and insects that abounded in my family's garden; so it is not surprising that my love of painting and a passion for flowers merged in my botanical art.

When you hear someone like Margaret Throsby interview successful artists from any field, whether it be music, theatre, dance, sculpture, painting, etc., you may be surprised to discover a recurring theme. So many of these people acknowledge an inspirational teacher who fostered their talent and encouraged them to further explore a particular path. In my case it was Mr. Marshall, my fourth grade teacher at Spotswood Primary School in the mid 1950's. It was obvious that this gentleman was deeply interested in art and the natural world, and it was he who inspired my love of nature, encouraging me to combine it with an already apparent talent for painting. There are many examples I could quote but one particular memory remains more vivid than all the others. One day, he brought in a huge bunch of chrysanthemums and distributed them amongst the class during an art lesson. Even now I will admit that chrysanthemums, because of the number of petals and the complexity of their arrangement, are not the easiest of flowers to draw, but I became totally absorbed in my drawing and remember feeling pleased that my work had turned

out so well. Mr. Marshall must also have thought I produced an acceptable likeness because he pinned my effort up on the wall for everyone to see.

This was the year that I was introduced to a subject called Nature Study. As I have already mentioned, I come from an artistic family, but the artists in my family were more interested in the broader picture, painting portraits, still life subjects, landscapes and seascapes in a loose, impressionistic manner. I broke with family tradition very early, when I began to look closely at animals, birds, insects, fungi and flowers, and realised that I preferred to paint precise, highly detailed images against a white background. (It was only in later years that I learnt this is the traditional way of presenting scientific studies of flora and fauna.) After each lesson I could hardly wait to get home and find a specimen to paint, and if I couldn't find a live specimen I would faithfully copy a drawing or photograph from a reference book. My Nature Study book was certainly lavishly illustrated, and at the end of the year Mr. Marshall kept my book to show to future classes. Although flattered at the time, I am now disappointed that I don't have a single example of my early work, because subsequent teachers also



*Dendrobium schneiderae*



*Pterostylis grandiflora*



*Pterostylis truncata*

*Dockrillia striolata*





kept my books. (Funnily enough, not one teacher ever wanted my arithmetic or maths books which were also lavishly illustrated but, alas, contained very few correct answers!)

But, you may well ask, what has all this got to do with orchids? Keep reading, we are getting there.

One day, about five years after we were married, Alex and I dropped in at my parents' place and caught my father repotting his cymbidiums. Dad asked Alex if he would like to take a few home. The reply? "I wouldn't mind trying a few!". The dreaded orchiditis had struck! Then, about 1980, we heard of a native orchid show being held at the Herbarium. Wow! At a subsequent show we joined up and have been attending A.N.O.S. Victorian Group meetings ever since.

Not long after joining the Society, we visited friends who had moved to a property in Gippsland. While exploring their bush block, we came across a colony of leafy green rosettes that Alex identified as native orchids. Our friends potted up a few for us to take home, but none of us had a clue what they were. One plant eventually flowered, in between meetings, of course.

I hadn't done any serious painting for several years, but this little orchid was inspiring. I took care to draw it as accurately as possible and, in doing so, learnt a valuable lesson about botanic art. The orchid had a deformed labellum. What should I do? Should I take artistic licence and straighten it out, or should I paint it as I saw it? After much deliberation, and contrary to the advice of my life's partner, I opted to paint what I saw. I took my finished painting to the next meeting and asked the "experts" to identify the plant. They were unanimous in their decision, saying "that's *Pterostylis curta*; it's got a twisted labellum!"

During my working years, and the years I'd spent raising our son, my art had been neglected, dwindling into what can only be described as a hobby. But, with the painting of that little orchid, my interest was miraculously revived. I began working in earnest and joined the Altona Art Society where our monthly competition gave me the opportunity to explore a wide range of avenues. However, more and more, I was drawn towards floral subjects, and two exhibitions at the Herbarium by noted botanical artists confirmed that this was the course I wanted to pursue.

Because botanical illustration is both a science and an art, a botanical artist must juggle the two disciplines and produce an image that explains why a particular species differs from all other plants. In other words, to show those features that make a lily a lily, a daisy a daisy or an

orchid an orchid. The artist must also explain, with meticulous attention to scientific accuracy, how one species of orchid differs from another orchid because, regardless of what standard is achieved in artistry, plant paintings containing inaccuracies cannot be considered as botanical art.

There are several ways botanical artists can approach a subject. Sometimes we can be compared to portrait painters but, instead of painting people's faces, we produce plant portraits. Like figure painters we may display the whole plant, including its roots or tubers. Artists with access to a microscope will frequently show in their works magnifications and dissections of the plant's floral segments (its petals, sepals, stamens, stigma, ovary, etc.), or an artist may choose to include the small patch of ground immediately surrounding the subject and give an indication of its natural habitat.

You may think that painting flowers is easier than painting chooks, cheetahs or children. At least they sit still! Or do they? While a botanical illustrator is working the specimen may be slowly



*Thelymitra ixioides*



*Sarcochilus australis*



changing position. Buds unfold and become full blown blooms that fade and die and, eventually, drop. They follow the light, so that a flower that is facing east in the morning could well be facing west by late afternoon. Every gardener knows that a rose bud, freshly picked one morning, may become a cabbage rose by the following day ... and petals on the floor by the third. And then there are flowers, like Sun Orchids (*Thelymitra*), that open only in bright light, and close again as the sun sets. So painting flowers is not always as simple as it seems!

After a string of shared exhibitions, I staged my first solo exhibition in 1989 - *Orchids & Butterflies of the Castlemaine District* was an outstanding success. Other solo exhibitions and displays followed. My work is represented in private, corporate and national collections worldwide; and you may have seen some of my native orchid paintings reproduced in *The Orchadian*, the quarterly journal of the Australasian Native Orchid Society. Several companies are using my work on a range of products including plates, mugs, placemats, decals, cards and stationery.

During the course of my career, I have accepted numerous private and corporate commissions, including watercolours of

indigenous species of various regions, popular garden plants for cards and calendars, and Australian plant designs for use on stationery, china, etc. After suggestions from prominent art judges that I produce a book, I have had the majority of my recent work professionally scanned onto computer disc. All I need now is the time to write a few words about each illustration.

When I am not painting I am probably using my desktop publisher. My illustrated short stories have appeared occasionally in popular publications and, several years ago, I became Editor of A.N.O.S. Victorian Group's monthly newsletter, a position I continue to find both challenging and rewarding.

While orchids are amongst my favourite subjects, I do paint a lot of other plants and have recently completed a commission for a set of Australian butterflies. Last year (1999), I accepted an invitation to be resident artist for the Habitat Trust at the CRT Resource Centre in Altona North, only five minutes from my home. My aim is to produce works that depict the indigenous flora of the wetlands, grasslands and basalt plains of Melbourne's west (including several terrestrial orchids) to show the public that all native flora, not just the biggest, brightest or most beautiful species, should be preserved for future generations. Please take a close look at my botanical watercolours, for I hope they will inspire

you to appreciate the fragile beauty that surrounds us.

You are most welcome to visit the Helene Wild Botanic Art Gallery at the CRT Resource Centre, open from Monday to Friday during office hours, but please make an appointment by first telephoning the Habitat Trust on (03) 9290-1705. It may be possible for groups to arrange a viewing at other times. Enquiries are always welcome, and I am happy to accept commissions. Limited copyright may be available on some works. Depending on the size and complexity of the subject, prices for an original watercolour begin at about \$100 to whatever. You may like to visit my web site where you will discover I don't paint only orchids.

[http://www.crtgroup.com.au/Resource\\_Centre/HeleneWild.html](http://www.crtgroup.com.au/Resource_Centre/HeleneWild.html)

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*Sarcocilus falcatus*



*Thelymitra epipactoides*



# Baskets For Stanhopeas

by Brian Milligan

**T**oday it's well known that stanhopeas must be grown in wooden or wire baskets (preferably the latter), so that the pendant flower spikes can make their way downwards through the compost and container. It was not always so. Early growers had always failed to flower their stanhopeas until a 'crock boy' (apprentice gardener) discovered the reason by accident about 1860.

The crock boy, employed by Sigismund Rucker, an amateur grower at Wandsworth (a London suburb), apparently dropped a pot containing a large *Stanhopea* plant. All pots were made of baked clay in those days and, of course, it shattered. The supervisor, John Mylam, was furious until he noticed that the root ball contained a coiled-up flower inflorescence that had been unable to escape from its prison. He re-planted the *Stanhopea* in a wooden basket and thereafter it flowered each year. Even when wooden baskets are used the flower spikes sometimes meet the wooden bars of the basket and abort. They have less opportunity to do this if wire baskets are used, especially those with widely spaced wires. Of course, it's important to line the basket with material which the pointed flower spears can penetrate, eg. paperbark, coconut fibre or sphagnum moss. Even newspaper can be used, but don't forget to punch in some drainage holes.



Drawing of *Stanhopea nigroviolacea* by Helene Wild

Other orchids, such as *Aerides* and *Vanda* species, were already being grown in wooden baskets before 1860. In fact, Sir Joseph Banks was the first to experi-

ment with basket culture for orchids as long ago as 1817.

**Brian Milligan, 35 Tannock Street,  
North Balwyn, Vic. 3104**



*Stanhopea* (Spindleriana x connata) plant Hills District Orchids, photo D. Titmuss



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# The Nature of Orchids – myth, mystery and fact

by Joan Burke

Down through the ages orchids seem always to have been surrounded by mystery and romance. Legend has it that the orchid's origin comes from Orchis, the wanton son of the nymph Acolasia and the satyr Patellanus. At a feast held in honour of the fertility god Priapus, Orchis was torn to pieces by enraged Bacchanals after he had attacked a priestess of Bacchus. Due to the desperate pleading of his father Patellanus, the gods changed Orchis' mutilated body into a flower.

In Antiquity men of medicine attributed aphrodisiacal properties to the orchids that had rounded paired tubers. These were reputed to 'somewhat resemble testicles' and were in accord with the Doctrine of Signatures: the Doctrine being a belief that a plant acts on the part of the body it resembles in its appearance; in other words 'like cures like'.

Dioscorides is believed to have observed a size difference between tubers of the current year and those of the previous one. Men who wished to beget sons ate the larger firmer tubers of the current year. The women, left to eat the tubers of the previous year, were said to conceive daughters. Due to the formation of the tubers, orchids were dedicated to the satyrs and silenoi. Although chiefly of human form satyrs were mostly denoted as having horses' tails or goats' legs, whilst silenoi had horse ears and tails. These lustful, boisterous part-animal creatures were in the retinue of Dionysus.

In Greece the terrestrial orchids number about a hundred species and sub-species. These may lack the size and splendour of large tropical orchids; however, in common with our own Australian terrestrials and some epiphytes, their beauty is revealed by close-up photography or by examination with a handheld magnifying lens.

In the mythology that surrounds the orchids of Greece, *Orchis italica*, which flowers in April/May, and is found growing at the edges of fields, is the plant said to represent Priapus, the god of fertility. In the nymphs' domain he is the protector of 'vineyards and gardens'. In a photograph it is plain to see an individual flower's resemblance to a manikin. This has given rise to the notion it may have

been the 'satyrion' of the ancients. Also, there is speculation that *Orchis quadripunctata* may be one of the plants known as the hyacinth of mythology.

If travelling in this fascinating country be aware that the same concern regarding loss of species emanates from Greece as from many other parts of the world. DO NOT remove any plants, as many species are threatened by extinction. Take only photographs as mementos!

As far back as the 28th century BC, orchids are believed to have been described in Chinese writings. Cultivation was practiced very early in Japan, with orchids being grown as much for their aphrodisiacal and medicinal properties as their floral beauty.

Culpeper, a famous astrologer-physician of the early 17th century, stated that one use of the tuberous roots was to kill worms in children. Another use was that when 'applied outwardly as a cataplasm (poultice) hard tumours and swellings would dissolve'. During his lifetime Culpeper spent many years studying astrology and medicine: he published books on both these subjects, one being *The Complete Herbal* (1649). (No matter how innocuous a remedy sounds the reader is strongly advised NOT to self-medicate – many plants are poisonous!)

The effective medicinal value is in the starchy substance known as 'salep'. This is extracted by soaking tubers in water. In 1973 over 2000 kilograms of orchid tubers were exported from Turkey! Thankfully, it seems their use in this regard is diminishing. A nourishing drink made from the dried powdered roots was produced in Turkey for many centuries, and was very popular in the days before coffee became fashionable.

*Vanilla planifolia* also has a mythological link. Vanilla beans were said to be the food of satyrs, with the resulting excesses of behaviors common to satyrs! At the time of Cortez' conquest of Mexico in 1519, Spanish conquistadors found that the Aztecs used portions of a particular plant's seedpod to flavour their cocoa. Subsequently the plant was identified as *V. planifolia*. In the pollination of orchids certain species require a specific insect to perform the task. As the flowers of *V. planifolia* last only one day, pollinating has to be done by hand.

When ripened and processed the capsules are the sources of pure vanilla flavouring. Some foods still contain the natural product, although a synthetic is used commercially.

A *Floral ABC* is a delightful book handwritten and illustrated by Elizabeth Cameron in 1980 for her grandchildren (published Webb & Bower, UK: 1982). Each letter of the alphabet is depicted by a flower: text on the left hand page contains information about the flower, its name and characteristics including mythology. The facing page carries a painting of the plant/flower mentioned. Beneath each illustration is written where the sample was gathered, such as "in the lane leading to Hurst farm" and so on.

The orchid pictured for O is *Dactylorhiza maculata*. Cameron mentions the mythological tale of the orchids and the satyrs, then also tells of the orchid as 'flowering at Gethsemane under the Cross...its leaves spattered with the blood of Christ...' Commonly known as the Moorland Spotted Orchid, the spots are a lasting reminder of Christ's spilt blood.

Then there are the flowers of the terrestrial Ophrys species that, due to their resemblance to bees, have the common name of Bee Orchids. Bees in fact, pollinate these charming little flowers. The orchids are in bloom before the female bees have hatched. Opportunistic orchids!

Lastly I come to *Oncidium cebolleta* which grows as a lithophyte on steep stony cliffs, as well as an epiphyte on trees, in the Tarahumara Indian country of Mexico. This species is reported as possibly being a hallucinogen, maybe used as a substitute for Peyote (a cactus). Peyote in the United States is used in 'vision quest' rituals. There are a number of ways in which Peyote can be used: it may be eaten dried or raw, as a tea or made into a mash. Little is known, however, of the orchid's use in this way. Any readers tempted to experiment would be well advised NOT to attempt 'vision questing' with this orchid. Far better to enjoy the 'vision' of the orchid flowering in your glasshouse!

Joan Burke  
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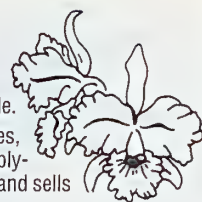
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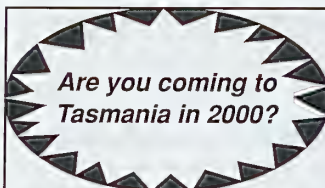
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## Stawell Orchid Club (Victoria)

The Stawell Orchid Club presented the winners of their annual competitions at the December meeting, which incorporated our end of year dinner. The evening ended with a magical slide programme by Michael Mathews. President John Welsh and his wife Barbara with their plant of *Paphiopedilum villosum* won the judges' award for our clubs Orchid of the Year. The club meets on the first Friday of the month at the Uniting Church Hall. Meetings start at 7.30pm and all visitors and new members are very welcome. ■

John Welsh



## Eastern Suburbs Orchid Society (NSW)

An Early Spring Show was held by the AESOS, Sydney at the David Jones store, Pagewood from September 8-12. The exhibit was very pleasing after the disastrous hailstorm in April, when many of our growers lost large numbers of plants. Grand Champion was *Paphiopedilum sukhakulii* 'Pagan Dance', beautifully grown by Norm Chaney. The Reserve Champion was *Masdevallia* Copper Angel with a brilliant bright yellow/orange mass of flowers, grown by Mijo Aleksic. The Champion Cymbidium went to Neville Stokes' *Cym. Gladys Whitesall*. This plant had three arching inflorescences of white speckled flowers setting off the top of the display. Bernard Cooley brought his usual marvelous array of species and did well in all these classes. As part of this year's David Jones appeal, 10% of all proceeds from the Sales Table were donated to the Children's Cancer Research Fund.

We then held a Late Spring (and Sarcophilus) Show in conjunction with ANOS Warringah Group. This was held at the Birkenhead Point Shopping Centre in mid October with just under 200 plants were exhibited. Grand Champion of the Late Spring Show went to Rob Lewry with a fine *Dockrillia striolata*. This plant was covered in flowers with a huge labellum. Reserve Champion was *Phalaenopsis amabilis*, superbly grown by Norm Chaney. As always, Norm produced a fine display of paphiopedilums. The Sarcophilus show was a fine display of flowers staged around and in the ornamental pool. Rob Lewry's large entry netted him both Champion Species with *Sarcophilus hartmannii* and Hybrid with *S. First Light*. ■

Chris Dalrymple



*Paphiopedilum villosum*



Eastern Suburbs display at Birkenhead Point Shopping Centre

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AOR166



## Attention AOR readers and Orchid Societies

*"This and That" is a regular feature of the Australian Orchid Review and readers and Orchid Societies are invited to contribute any small news items of interest to Orchid lovers.*

*The deadline for items can be found on page 3.*

*Address all correspondence to the Editor. "This and That", Australian Orchid Review, 14 McGill Street, Lewisham, NSW 2049.*

Registrant \$122. (GST included). Now that is a good reason to get your club members planning ahead.

The Conference is being held at Karralyka Centre in Ringwood, about 25km east of Melbourne GPO. Car parking facilities are excellent at the Centre and public transport is but a short walk away.

A range of accommodation types in the vicinity has been organised to cater for every budget and special rates have been negotiated. Contact the Conference Secretariat for details and bookings at these reduced rates.

Further information may be obtained from the Conference Secretariat at:  
PO Box 2152, Templestowe Heights  
Vic 3107.

Phone 03 9850 9867

e-mail: dickthom@melbpc.org.au

## St Ives Orchid Fair

This year on the 18, 19 and 20 August the A.N.O.S. Warringah Group, Ku-Ring-Gai Orchid Society, Manly Warringah Orchid Society and the North Shore Orchid Society will be holding the 1st St Ives Orchid Fair at the St Ives Showground, Mona Vale Road, St Ives. The fair will be open from 9.30am to 4.30pm Friday and Saturday and 9.30am to 3.00pm on Sunday. It will be held in two halls, one hall will have orchid displays by societies and sellers and the other will have orchid sales and supplies by local and interstate nurseries.

There will be an entry fee of \$4.00 for adults with a concession for pensioners and children. Parking is free at the Showground for the Fair.

Further details contact: Hon. Secretary, Lesley Bromley, 43 Ferguson Street, Forestville, NSW 2087.

## Orchidaceous Books

Grant Smith and his wife Christine launched Orchidaceous Books back in 1988 at the Caloundra Orchid Expo. It continued to expand over the next decade to become an integral service to book collectors in Australia and overseas. Grant was able to source specialist orchid books, popular works, rare old books plus a good range of pre-loved titles. Sadly, as most of the orchid community know, on 20 March 1999 Grant was involved in a serious car accident in northern New South Wales.

Complications after the accident led to Grant being unable to continue the business and it was sold in December 1999 to Grahame and Margaret Muller of Maryborough, Queensland. The new owners have grown and studied native orchids since the early 1980's and are founding members of ANOS Wide Bay and ANOS (Qld) Kabi. Grahame and Margaret intend to consolidate on Grant's achievements with a continued aim of sourcing fine orchid literature, both new and old. Pre-loved titles will continue to be stocked. Books highlighting species from around the world will continue to be sought.

The high standard that Grant achieved will continue. In the near future Orchidaceous Books will have its own active website on the Internet. At present, they can be contacted by email [gmuller@mary.big.net.au](mailto:gmuller@mary.big.net.au) or fax (07) 4122 4539.

## Australian Orchid Conference

The Burnie Orchid Society will be hosting the 15th Australian Orchid Conference from 10-15 October 2000.

The photo shows Conference President for "Orchids in Tiger Country", Jeff Rolls admiring last years Burnie Orchid Society show, at the conference venue - Burnie Civic Centre.

Conference details are available from;

Secretary, Burnie Orchid Society

Mrs Kay King

P.O. Box 332

Burnie, Tasmania 7320

Phone (03) 6432-0746,

Fax (03) 6432-3842

Website: [www.burnie.net/orchids](http://www.burnie.net/orchids)

E-mail: [orchids@tas.webnet.com.au](mailto:orchids@tas.webnet.com.au)

## Western Australia to Host First International Orchid Conservation Congress

Kings Park & Botanic Garden in conjunction with the Orchid Specialist Group of the Species Survival Commission of IUCN-The World Conservation Union and Botanic Gardens Conservation International are pleased to announce:

The 1st International Orchid Conservation Congress (Incorporating the 2nd International Orchid Population Biology Conference) 24-28 September 2001, Perth, Western Australia

The Congress will bring together for the first time, orchid conservation specialists, researchers and practitioners, to develop an understanding of global issues in orchid conservation. The Congress will cover topics including phylogeny of the Orchidaceae, population biology, pollination biology, propagation science, germplasm storage, conservation genetics and taxonomy with opportunities for specialist workshops in orchid conservation techniques and orchid recovery programs. Pre- and post-conference tours will explore the incredible diversity of orchids and remarkable wildflowers of southwest Western Australia. The first circular will be available in April 2000 and a call for papers will follow soon after. To register your interest in this congress please contact:

The Congress Secretariat

Dr Kingsley Dixon

Kings Park & Botanic Garden

West Perth 6005 Western Australia

Tel: +61 8 9480 3614

Fax: +61 8 9480 3641

Email: [orchidcongress@kpbp.wa.gov.au](mailto:orchidcongress@kpbp.wa.gov.au)

## Fourth Australasian Native Orchid Conference and Show

Melbourne 5-8 October 2000

The Australasian Native Orchid Conference and Shows are the Premier events on the Australasian native orchid enthusiasts' calendar. With the number of activities that are planned to surround the upcoming 4th Conference, it is no wonder that they are rare jewels that only occur every few years.

Whilst there will not be a moment to spare around the event, the registration price has been kept to a minimum and we feel that the early registration rate of \$160 (GST included) is very good value for money.

Registration for the Conference includes: attendance at the 2 day speaker program with leading speakers, the cocktail party, a copy of the book of Proceedings, unlimited entrance to the show and sales area, a Conference badge, and priority on the Conference tours.

As well as the Conference, there will also be a large Show and sales area, totalling over 600 square metres. The Show will also contain an Art and Craft Display and a Photography Competition continuing the theme of our wonderful Australasian Orchids. Then there are orchid and non-orchid tours to provide another opportunity for socialising with orchid enthusiasts from all over Australia and beyond. Then to top it all off there will be the Conference Dinner and other less formal social events.

With the conference less than a year away it is time to consider sending in your registration form, and there is a great incentive to register early! The Early Bird Registration rate (Full \$160 and Companion \$135 (GST included)) only lasts until 31st March 2000. After March 31st registration will be at the higher rate (Full \$200 and Companion \$175).

To provide an even better opportunity for groups, a discount is available to Early Bird group bookings (a minimum of 10 registrations per cheque) made prior to 31st March 2000. Registrant \$144 and Companion



# New Orchid Hybrids

APRIL/MAY/JUNE 1999 REGISTRATIONS

Supplied by the Royal Horticultural Society as International Registration Authority for Orchid Hybrids

NAME	PARENTAGE	REGISTERED BY (O/U = Originator unknown)
<b>ALANGREATWOODARA</b>		
Lois	Agwa. Kiwi Sunrise x Z. Kiwi Choice	W.Fisher
<b>ANGULOCASTE</b>		
Denise	Angcst. Thomas x Lyc. Balliae	R.J.Hartley(H.Oakeley)
<b>ASCOCENDA</b>		
Gloja Webster	Ascd. Tammy Wakasugi x Ascd. Guo Chia Long	T.Ritter
Kraiker White	V. Thanantess x Ascd. Tubtim Velvet	K.Phutthaviriya
Memoria Anna Baron	V. lamellata x Ascd. Meda Arnold	Harold Johnson
Memoria Carol Wriegel	V. Fuchs Fuchsia x Ascd. Dorothy Kuper	R.F.Ochids
Memoria Katharine Hatos	Ascd. Jiraprapa x Ascd. Kenny Gold	R.Hatos(R.F.Ochids)
Nopporn Gold	Ascd. Pete Balasky x V. Charles Goodfellow	N.Buranaktham
Saint Valentine	V. Kasem Wirat x Ascd. Peggy Foo	P.Pacharapong(A.Hongsilpa)
Salaya Red	V. Kasem's Delight x Ascd. Meda Arnold	C.Wheistone(Zengyo Orch.)
Varut Pioneer	Ascd. Fuchs Gold x Ascd. Duang Porn	K.Veivarut
Yamisa Gold	V. Darres' Golden Heritage x Ascd. Anant Gold	Kultana
<b>BAKERARA</b>		
Santa's Flying	Dgmra. Flying High x Onc. Santa Rosa	H.Rohr
<b>BARKERIA</b>		
Lotte Scheller	Bark. Marsh Monarch x Bark. strophinx †	H.J.Jung
<b>BIFRENARIA</b>		
Atris	Bif. atropurpurea x Bif. harrisoniae	H.Rohr
<b>BRASSOCATTLEYA</b>		
Lost Generation	Bc. Pastoral x C. Lovely	Don Massey
<b>BRASSOLALIA</b>		
DiPozzi Con Brio	B. nodosa x L. angerei	Fi.Edmondo Pozzi
<b>BRASSOLALIOCATTLEYA</b>		
All My Love	Bic. Daybreak x Bic. Malworth	S.Maki
Banjong Ben	Lc. American Velvet x Bic. Magnificent Obsession	B.Mianmanus
Bansal Delight	Bic. War Chant x Lc. Waianae Sunset	T.Suksumitr
Beamer	Lc. Little Sunbeam x Bic. Horizon Flight	B.Poneprasert(T.Orchids)
Boonsomk	Bic. Ports of Paradise x Bic. Ladda Delight	G.Vallance(Carter & Holms)
Brunswick Gem	Bic. Owen Holmes x C. Horace	Stewart Orch.
Color Wheel	Bic. Andy's Fortune x Bic. Toshie Aoki	Fi.Edmondo Pozzi
DiPozzi Tiepolo	Lc. Eligold de Valec x B. glauca	PL-E.K.I.Found.(V.Chin)
Erinda Kalaw-Ilorio	Bic. Ann Kimi x Lc. José Dias Castro	Orquideas Eva
Eva's Sol Tu	Bic. Gorgeous Gold x Bic. Shirai Sunset	Don Massey
Future Slogan	Bic. Meditation x C. Gertrude	Ri.Sobrinho
Gema de Rafa	Bic. Fort Watson x Bic. Acapana	R.Sanithong
Haadai Delight	Bic. Faye Miyamoto x Bic. Destiny	T.Suksumitr
Koh Yai Beauty	Bic. Green Fantasy x Bic. Siam Beauty	Don Massey
Lamthay Green	Bic. Pamela Farrell x Bic. Sylvia Fry	H.J.Janke
Lasting Impression	B. glauca x Lc. Gold Digger	Robertson Orch.(G.Gorton)
Lutragold	Bic. George King x Bic. Goldenzella	
Lyn Evans		

NAME	PARENTAGE	REGISTERED BY
<b>BRASSOLALIOCATTLEYA (continued)</b>		
Made To Order	Bic. Ruth Griffin x Bic. Sylvia Fry	Don Massey
Mothers Choice	Bic. Black Mesa x Bic. Ocone	Don Massey
Nueva Ilusion	Bic. Bouton D'Or x Bic. Perla del Caribe	R.Sobrinho
Pathumthani Sunset	Bic. Maitland x Bic. Korat Sunset	B.Pumploenpit
Pissamai	Bic. Jane Helton x C. Landate	S.Pissamai
Royal Easter	Bic. Ruth Griffin x Bic. Dundas	Don Massey
Royal Queen	Lc. Lustre x Bic. Ocone	Fordyce
Srisook Gold	Bic. Korat Sunrise x Bic. Siam Gold	B.Pumploenpit(M.Srisook)
Sunflower	Bic. Goldtone x Bic. Golden Slippers	Fordyce
Thoughtful Blend	Bic. Little Susie x Bic. Memoria Crispin Rosales	Don Massey
Trumpet	Bic. Goldfield x Lc. Imperial Torch	Fordyce
Tymwood Frost	Bic. Meditation x C. Hawaiian Frost	F.Komiyama(Tymwood)
Tymwood Spirit	Bic. Aloha Spirit x Bic. Susan Harry	F.Komiyama(Tymwood)
Tymwood Watercolor	Bic. Susan Harry x Bic. Hawaiian Princess	F.Komiyama(Tymwood)
Valie Lee	Lc. Maria Ozzella x Bic. Owen Holmes	Fordyce
Varut Angus	C. Netasiri Fireball x Bic. George Angus	K.Veivarut
Varut Greenworth	Bic. Greenwich x C. Landate	K.Veivarut
Victory Drum	Bic. Victory at Sea x Lc. Drumbeat	Stewart Orch.
Waraphorn Golden Joy	Bic. Varut Raine-Gold x Bic. Rattanakosin	H.K.Lau(P.Tuppocha)
<b>CATTLEYA</b>		
Elisabeth Langgasser	C. Polarstern x C. intermedia	H.J.Jung(H.Lucke)
<b>CATTLEYTONIA</b>		
Yen Fantasy	C. Palin Fantasy x Ctna. Keith Roth	Y.Weerawathanamas
<b>CHRISTIEARA</b>		
Kraiker Gold	Abr. lawrenceae x Ascd. Bangkhuntian Gold	K.Phutthaviriya
<b>COLMANARA</b>		
Aloha Carnival	Colm. Sphacetante x Odnra. Lorraine's Fourteenth Woc J.McCully	
<b>CYCNODES</b>		
Midnight Magic	Morm. Midnight x Cyc. chlorochilon	F.Clarke
<b>CYMBIDIUM</b>		
Apricot Flare	Cym. Design x Cym. Thanksgiving	Bailey's Orchids
Bronze Sunrise	Cym. Greentair x Cym. Memoria Harold Willetts	Bailey's Orchids
Candy Cane	Cym. Mona Porter x Cym. Cleo Sherman	E.Ellestad(N.Porter)
Chatter Magic	Cym. Chatterbox x Cym. Tethys	N.Porter
Coraki Smoke	Cym. Coraki x Cym. Jocko	N.Porter
Exotic	Cym. Valley Avant x Cym. Rose Pepper	Bailey's Orchids
Fancy Floss	Cym. Candy Floss x Cym. Fancy Free	N.Porter
Future Direction	Cym. Zumma Boyd x Cym. Coraki Beauty	J.& F.Coker(Geyserland)
Golden Globe	Cym. So Bold x Cym. Huckleberry Mountain	Bailey's Orchids
Golden Millennium	Cym. Golden Elf x Cym. Sunset Gold	J.& F.Coker(Geyserland)
Golden One	Cym. Eastern Star x Cym. Golden Elf	N.Porter
Golden Peach	Cym. Winter Fire x Cym. Wyel	Bailey's Orchids
Golden Tyke	Cym. Little Tyke x Cym. Thanksgiving	Bailey's Orchids
Good Show	Cym. Mini Cinnamon x Cym. Rolling Stone	Bailey's Orchids
Irish Green	Cym. Greenstone x Cym. Sun God	Bailey's Orchids
Joyce Goffin	Cym. Red Beauty x Cym. May Hopcraft	Bailey's Orchids
Kerry Caldwell	Cym. Coraki x Cym. Coratea	N.Porter
Lancashire Ruby	Cym. Lancashire Rose x Cym. Ruby Eyes	Paradisia Pty.(Schaefers)
Maree Porter	Cym. Solana Beach x Cym. Clarisse Austin	N.Porter
Michiki Kawano	Cym. So Bold x Cym. Pepper's Star	F.Imai
Orange Juice	Cym. Red Beauty x Cym. Newport	Bailey's Orchids
Orange Star	Cym. Red Panther x Cym. Huckleberry Mountain	Bailey's Orchids
Panther Mountain	Cym. Golden Peach x Cym. Wallara	N.Porter
Peach Fiesta	Cym. Solana Beach x Cym. Claude Pepper	Bailey's Orchids
Pepper Beach	Cym. Peter Pilot x Cym. Isla O'Connor	Imai
Peters Puff	Cym. Eastern Star x Cym. Sussex Dawn	N.Porter
Pure Poetry	Cym. Panalatinga x Cym. Culpaulin	Bailey's Orchids
Red Sun		



## CYMBIDIUM (continued)

Street Tango  
Summer Sun

## DENDROBIUM

Bernadette Naden

Blue Charm

Blue Foxtail

Blue Violetta

Bob Graham

Bundaberg White

Burana Fuchsia

Burana Greenstar

Burana Princess

Burana Red-Stripes

Burana White

Chalsri Flare

Charack Red

Cleopatra Beauty

Dan and Sam

Erko Ogihara

Keith Milligan

Lee Siew Hua

Lee Yee Hwee

Mermaid Gold

Midnight Delight

Nopporn Pink

Ruby Norman

Sabine Beauty

Selena Marie

Srimahapote

Tumbling Dice

Victorian Frost

Victorian Lady

What If

White Dragon

Wild Horses

Winifred Ogata

DISA

Audrey Shaw

Briget Oppenheimer

Caltech South Africa

Guernsey

Helena

Irvin and Johnson

Michelle

Rotary

DORTAENOPSIS

Bavarian Point

Bavarian Snow

Bavarian Surprise

Bookie's High Sierra

Brecko Fire Jewel

Brecko Landbase

Brecko Puffwell

Brecko Snowpice

Brecko Wellshire

Brother Tom Walsh

Canadian Cream

Candarella Rose

Coppermine

Cym. Brook Street x Cym. Last Tango  
Cym. So Bold x Cym. Autumn Crisp

Den. Shadia x Den. Bobby Mesina

Den. Kultana x Den. Doctor Poyck

Den. arcuatum x Den. Udom Blue Angel

Den. Little Lilac x Den. Udom Blue Angel

Den. Mauna Loa x Den. Carissa

Den. Bright Eyes x Den. Barron Falls

Den. Keith Milligan x Den. Diamond Queen

Den. Burana Green x Den. Madame Vipa

Den. Suksawat x Den. Burana White

Den. Yuppadeewan x Den. Thanaid Stripes

Den. Adisakdi White x Den. Hirota White

Den. Malia Akana x Den. Mary Mak

Den. Diamond Queen x Den. Genting Blue

Den. Tora Ohashi x Den. Diamond Queen

Den. Khunying Boonnun x Den. Kwan Sam Hoi

Den. Civ x Den. D'Bush Pansy

Den. Ekapol x Den. Madame Vipa

Den. Shadia x Den. canalculatum

Den. Ng Eng Cheow x Den. Buddy Shepler

Den. Kasem Gold x Den. Mermaid

Den. Midnight Velvet x Den. Kahului Red

Den. Walter Oumae x Den. Hirota White

Den. Kiliani Stripe x Den. Mauna Loa

Den. Sabine x Den. Nago Beauty

Den. Yukidurama x Den. Selgyoku

Den. Adisakdi White x Den. Theodore Takiguchi

Den. lineale x Den. Silkworm

Den. Bicentennial Rose x Den. Gulginni

Den. Yondi x Den. Rutherford Blushing Bride

Den. pseudoglomeratum x Den. bellatulum

Den. Burana White x Den. Anna Bibus

Den. Dandos x Den. Johannis

Den. Caesar x Den. Joanna Mesina

DISA

DISA Diorex x DISA Sea Lord

DISA Riette x DISA Unifoam

DISA Sunset x DISA Kewdior

DISA Danielle Thomas x DISA Unimeyer

DISA Arnold Kottler x DISA uniflora

DISA Corinne Blanc x DISA Watsonii

DISA uniflora x DISA Watbett

DISA Southern Cross x DISA uniflora

Dips. Dellwood x Phal. Bavarian Red Lip

Phal. Malibu Pride x Dips. Bavarian Surprise

Dips. Praslin x Dips. Tamara

Dips. Dellwood x Phal. Sierra Leone

Phal. Land O' Cotton x Dips. Orglade's Jewel

Dips. Inverness Firebrand x Phal. Harford's Space Base

Dips. Brecko Snowpuff x Phal. Sandy Wells

Dips. Brecko Snowpuff x Phal. Epic Cello

Dips. Hampshire Puff x Phal. Brother Purple

Dips. Brother Julius x Phal. Brother Purple

Dips. Lun Jessica x Phal. Jade

Dips. Goldenosa x Phal. Carolina Yellow Gold

## DORTAENOPSIS (continued)

Cosmo-Redeye

Funky Girl

Goldbug

Kochs Feuer

Kochs Firebrand

Malibu Gold

Miss Saigon

Miva Sigma

Miva Venus Pourpre

Mount Chou

Nanking's Ruby

Olympic Gold

Pental Gem

Prinzessin Sunmyi

Rose Vanity

Shock Treatment

Silver Lips

Sinica Candy

Sinica Cherry

Sinica Claret

Sinica Cupid

Sinica Fortune

Sinica Knight

Sinica Paradies

Sinica Peeress

Sinica Prince

Sinica Romance

Sinica Rosebeauty

Sinica Strawberry

Sinica Sunshine

Sinica Venus

Sissy's Snow

Soka Doll

Soka Fantasy

Soka Time

Toh Ivory

Youthful Cich

DRACUVALLIA

Paderewski

EPICATTFLEYA

Christine Hartrott

Dipozzi Timoretto

Little Sweetheart

Purple Spring

EPIDENDRUM

Charm Valley

Fantasy Valley

Jubilee

Moon Valley

Peach Valley

Pearl Valley

Prince Valley

South Valley

Sunset Valley

Twinkle Valley

Wine Valley

GOODALEARA

Ash Trees

Dips. Orglade's Puff x Phal. Zuma Red Eye

Dips. Happy Valentine x Dips. City Girl

Phal. Golden Sparkle x Dips. Autumn Sun

Dips. Hans Koch x Phal. Tungku Afzan

Phal. Memoria Donald Plank x Dips. Autumn Sun

Dips. Orglade's Puff x Phal. Naseweis

Dips. Mega de Miva x Phal. Mivalpes

Phal. Venus x Dor. pulcherrima

Phal. Mount Kaala x Dips. Ta Bei Chou

Phal. Carmela's Spots x Dips. Super Ruby

Dips. Bronze Idol x Dips. Autumn Sun

Dips. Purple Gem x Phal. equestris

Dips. Alice Loeb x Phal. Naseweis

Phal. Rousserole x Dips. Fiesta Pacifica

Dips. Flattery x Dips. Hawaiian Fire

Dips. Happy Valentine x Phal. High Energy

Dips. Mount Chou x Phal. Hilo Lip

Dips. Taisuco Firebird x Phal. equestris

Dips. Purple Gem x Dips. Taisuco Firebird

Dips. Modern Beauty x Dips. Taisuco Firebird

Dips. Taisuco Pixie x Dips. Taisuco Firebird

Dips. Rose Valentine x Dips. Sinica Sunshine

Dips. Happy Valentine x Dips. Sun Prince

Dips. Coral Girl x Dips. Sinica Peeress

Phal. New Cinderella x Dips. Taisuco Sweet

Dips. Leopard Prince x Dips. Sun Prince

Dips. Happy Valentine x Dips. Taisuco Sweet

Dips. Rose Valentine x Dips. Taisuco Beauty

Dips. Purple Gem x Dips. Taisuco Candystripe

Dips. New Class x Dips. Sun Prince

Dips. Taisuco Love x Dips. Taisuco Firebird

Dips. Texas Snow x Phal. Florida Snow

Dips. Malibu Affection x Phal. equestris

Phal. Persian Pink x Dips. Happy Valentine

Phal. Quiet Time x Dips. Descanso

Dips. Aspen Snow x Phal. Somethin' Else

Dips. Youthful x Phal. Robert Cich

Drac. Viad-tepes x Masd. strobilii

C. Pittiae x Epi. adenocaulon

C. aurantiaca x Epi. cordigerum

C. Endless Summer x Epi. mariae

Epi. Frances Dyer x Epi. bractescens

Epi. radicans x Epi. Crystal Valley

Epi. Joseph Glow x Epi. Crystal Valley

Epi. melanoporphyreum T x Epi. capricornu

Epi. Secret Valley x Epi. Eagle Valley

Epi. Coral Valley x Epi. Oriental Valley

Epi. Princess Valley x Epi. Secret Valley

Epi. King Valley x Epi. Queen Valley

Epi. Hokulea x Epi. King Valley

Epi. King Valley x Epi. Eagle Valley

Epi. elongatum x Epi. King Valley

Epi. radicans x Epi. Hokulea

Alcra. Ursula Rohrl x Oda. Eric Young

H. Rohrl (George Black)



NAME	PARENTAGE	REGISTERED BY
<b>LAELIOCATONIA</b>		
Mighty Titan	<i>L. anceps</i> x <i>Ctna.</i> Jamaica Red	Parkside
Yen Trobic	<i>Ctna.</i> Yen Fantasy x <i>Lc.</i> Vanut Startrack	Y.Weerawathanamas
<b>LAELIOCATTELEYA</b>		
Autumn King	<i>Lc.</i> Irene Finney x <i>C.</i> Memoria Midori Nakano	Morita Inc.
Breakthrough	<i>Lc.</i> Mini Purple x <i>Lc.</i> Little Susie	W.L.Bates
Eva's Layenda	<i>C. walkeriana</i> x <i>Lc.</i> Orglade's Apogee	Orquideas Eva
Excellescombe	<i>Lc.</i> Excellency x <i>C.</i> Sedlescombe	Orquideas Eva(Hata Orch.)
Koolau King	<i>Lc.</i> Koolau Seagulls x <i>Lc.</i> Pirate King	Fordey
Pleasipit Beauty	<i>Lc.</i> Yen Redface x <i>Lc.</i> Loog Tone	B.Pumploenpit
Steadfast	<i>Lc.</i> Lustre x <i>Lc.</i> Imperial Torch	Fordey
<b>LOWSONARA</b>		
Walt Whitman	<i>Aer.</i> odorata x <i>Rhctm.</i> Sagarik	Harold Johnson
<b>LYCASTE</b>		
Cosmo-Meadow	<i>Lyc.</i> Wyuna x <i>Lyc.</i> Sunrise	Kokusai(T.Kasahara)
<b>LYONARA</b>		
Never Never	<i>Smbc.</i> Splendid Bow x <i>Lc.</i> Peggy Huffman	Don Massey
<b>MASDEVALLIA</b>		
Alpha Glow	<i>Masd.</i> Susan x <i>Masd.</i> Heathii	R.Macdonald
Baby Face	<i>Masd.</i> uniflora x <i>Masd.</i> tonduzii	J & L
Bug Eggs	<i>Masd.</i> ova-avis † x <i>Masd.</i> mendozae	Hoosier
Kali	<i>Masd.</i> veitchiana x <i>Masd.</i> pulcherrima †	Hoosier
Loving Cup	<i>Masd.</i> triangularis x <i>Masd.</i> Orange Ice	Hoosier
Moonflower	<i>Masd.</i> constricta x <i>Masd.</i> tonduzii	Hoosier
Priouette	<i>Masd.</i> Angel Glow x <i>Masd.</i> veitchiana	J.Page
Sunfire	<i>Masd.</i> Goldbug x <i>Masd.</i> Sunny Angel	Hoosier
Sunny Delight	<i>Masd.</i> Monarch x <i>Masd.</i> constricta	Orchid Zone(M.Pendleton)
Tom Thumb	<i>Masd.</i> strobili x <i>Masd.</i> patricia	Hoosier
<b>MORMODES</b>		
Midnight	<i>Morm.</i> buccinator x <i>Morm.</i> sinuata	F.Clarke(O/U)
<b>ODONTODA</b>		
Beenak Page	<i>Oda.</i> Memoria Len Page x <i>Oda.</i> Beenak Brilliance	H.Rohr(J.Gay)
Beenak Rum	<i>Oda.</i> Beenak Page x <i>Oda.</i> Marshall's Rum	H.Rohr(George Black)
Elaine's Fire	<i>Oda.</i> Fireflower x <i>Oda.</i> Elaine	Mukoyama(Geyserland)
Joplin Marie Finkrock	<i>Oda.</i> Saint Clement x <i>Oda.</i> Memoria Len Page	J.L.Walker(Orchid House)
Joyful Cathay	<i>Oda.</i> Cathy Pacific x <i>Oda.</i> Joyful	R.Stevens(George Black)
Paradiso	<i>Oda.</i> Cranberry Leopard x <i>Oda.</i> Picotee	Orchid Zone(M.Pendleton)
Petit Annette	<i>Odm.</i> cirrhosum x <i>Oda.</i> Bellozanne	E.Young O.F.
Somebody	<i>Oda.</i> Shelley x <i>Odm.</i> Somelle	Mukoyama(Geyserland)
<b>ODONTOGLOSSUM</b>		
Serenidipity	<i>Odm.</i> cirrhosum x <i>Odm.</i> praestans †	J & L
Yellow Stream	<i>Odm.</i> cirrhosum x <i>Odm.</i> Nicola Louise	H.Rohrl
<b>ODONTONIA</b>		
Emil Luckel	<i>Milt.</i> schroederiana x <i>Odm.</i> hastilabium	H.J.Jung
<b>ONCIDIUM</b>		
La Chola	<i>Onc.</i> loxense † x <i>Onc.</i> macranthum	P.Tosi
Memoria Rita Darby	<i>Onc.</i> Private Stock x <i>Onc.</i> Love That Red	J.Adams(Richella)
Ruby Fireglow	<i>Onc.</i> Tamra Raven x <i>Onc.</i> Golden Sunset	M.LeDoux
<b>PAPHIOPEIDILUM</b>		
Adesugata	<i>Paph.</i> Salty x <i>Paph.</i> Memoria Toshio Miyata	T.Takano
Apres Midi	<i>Paph.</i> appletonianum x <i>Paph.</i> hookerae	A.Mochizuki
Bavarian Moon	<i>Paph.</i> Farmmoore x <i>Paph.</i> Fred Cosanka	W.H.Kaiser

NAME	PARENTAGE	REGISTERED BY
<b>PAPHIOPEIDILUM (continued)</b>		
Bavarian Star	<i>Paph.</i> Fred Cosanka x <i>Paph.</i> Winston Churchill	W.H.Kaiser
Beatle Catcher	<i>Paph.</i> wardii x <i>Paph.</i> Helen Milton	A.Mochizuki
Betty Rankin	<i>Paph.</i> James Bacon x <i>Paph.</i> Supersuk	Pine Ridge
Burgundy Genesis	<i>Paph.</i> Procal x <i>Paph.</i> bellatulum	Pine Ridge
Byron Geer	<i>Paph.</i> James Bacon x <i>Paph.</i> Conco-bellatulum	Paphanatics
California Sand	<i>Paph.</i> California Queen x <i>Paph.</i> Redsand	H.Oizumi(A.Franchini)
Carneros Creek	<i>Paph.</i> James Crow x <i>Paph.</i> Burning Bush	Rod McLellan Co.
Carolyn Butcher	<i>Paph.</i> Fanaticum \$ x <i>Paph.</i> delenatii	Paphanatics
Carrie Glenn	<i>Paph.</i> Oriental Frieze x <i>Paph.</i> leianium	A.Mochizuki
Cassius Clay	<i>Paph.</i> Vredental Frieze x <i>Paph.</i> Montagnard	A.Mochizuki
Chikisani	<i>Paph.</i> Reyeshill x <i>Paph.</i> Ossipee	I.Shimizu
Dichroic Revelation	<i>Paph.</i> Helice x <i>Paph.</i> barbatum	Pine Ridge
Fumi's Flight	<i>Paph.</i> Pnocchio x <i>Paph.</i> haynaldianum	Paphanatics(F.Sugiyama)
Gael Force	<i>Paph.</i> Maudiae x <i>Paph.</i> Helice	Pine Ridge
Grandhill	<i>Paph.</i> Grand Canyon x <i>Paph.</i> Winston Churchill	H.Oizumi(Kokusai)
Green Valley	<i>Paph.</i> Magic Mood x <i>Paph.</i> Via Pantano	Rod McLellan Co.
Hiro Take Off	<i>Paph.</i> Olaf Grussy x <i>Paph.</i> Rosallo Bobadilla	Hanaran-ya(H.Fujita)
Honey Cocktail	<i>Paph.</i> Claf Family x <i>Paph.</i> mastersianum	A.Mochizuki
Hurenay	<i>Paph.</i> Ossipee x <i>Paph.</i> Paenony	I.Shimizu(S.Nomura)
Ikazuchi	<i>Paph.</i> Accatation x <i>Paph.</i> Yadorigi	Dr T.Tanaka
Ikorekaru	<i>Paph.</i> Narikatsu Ikeda x <i>Paph.</i> Paenony	I.Shimizu(S.Nomura)
Impromptu	<i>Paph.</i> Magic Lantern x <i>Paph.</i> sukhakuli	Orchid Zone(M.Pendleton)
In-Charm Doll	<i>Paph.</i> Conco-bellatulum x <i>Paph.</i> philippinense	In-Charm O.N.
Jakob Strobl	<i>Paph.</i> Wössner Flamme x <i>Paph.</i> sanderianum	F.Glanz
Jungfrukallan	<i>Paph.</i> Maudiae x <i>Paph.</i> Forest Nymph	A.Mochizuki
Kaguya Hime	<i>Paph.</i> Almalune x <i>Paph.</i> Alma Gavaert	Dr T.Tanaka
Kleinmond	<i>Paph.</i> Grosnez Castle x <i>Paph.</i> Pacific Ocean	M.Tibbs
La Croiserie	<i>Paph.</i> Winston Churchill x <i>Paph.</i> Personality	E.Young O.F.
La Fosse	<i>Paph.</i> Rod McLellan x <i>Paph.</i> Mont Cambrai	E.Young O.F.
Lamloch	<i>Paph.</i> Personality x <i>Paph.</i> New World	M.Tibbs
Lapis Convolution	<i>Paph.</i> Red Maude x <i>Paph.</i> Helice	Pine Ridge
Loki Booth	<i>Paph.</i> superbiens x <i>Paph.</i> kolopakingii	D.& N.Booth(R.J.Rands)
Lyrical Dream	<i>Paph.</i> Bellaiba x <i>Paph.</i> rothschildianum	Kokusai
Magic Paenony	<i>Paph.</i> Paenony x <i>Paph.</i> Pacific Magic	N.Mountford(J.Hanes)
Mahogany Light	<i>Paph.</i> Blacklight x <i>Paph.</i> Muriel Constance	F.Clarke
Memoria Doris Shaw	<i>Paph.</i> Berenice x <i>Paph.</i> Voodoo Magic	S.Bedford(N.Hasegawa)
Mia Robertson	<i>Paph.</i> Virgo x <i>Paph.</i> Conco-bellatulum	Paphanatics
Mrs Kayoko Tanaka	<i>Paph.</i> Shawnee x <i>Paph.</i> Psyche	Dr T.Tanaka
Nuporo	<i>Paph.</i> Peter Black x <i>Paph.</i> Annetta Hanes	I.Shimizu(S.Nomura)
Ocean Exploit	<i>Paph.</i> Pacific Ocean x <i>Paph.</i> World Exploit	M.Tibbs
Ohkuninushi	<i>Paph.</i> Holdenii x <i>Paph.</i> cilolare	Dr T.Tanaka
Oriental Jade	<i>Paph.</i> Ontario Jade x <i>Paph.</i> Oriental Frieze	Paphanatics
Pepe	<i>Paph.</i> Rod McLellan x <i>Paph.</i> Frosty Clover	I.Shimizu(Rod McLellan Co.)
Red Crown	<i>Paph.</i> Chili Colorado x <i>Paph.</i> callosum	Orchid Zone(M.Pendleton)
Red Shift	<i>Paph.</i> Red Maude x <i>Paph.</i> Pulsar	Orchid Zone(M.Pendleton)
Redspell	<i>Paph.</i> Red Horizon x <i>Paph.</i> Incantation	Orchid Zone(M.Pendleton)
Revolution	<i>Paph.</i> Sioux x <i>Paph.</i> Petula	A.Mochizuki
Robert Green	<i>Paph.</i> Emulate x <i>Paph.</i> Meon	Paphanatics
Royal Wings	<i>Paph.</i> Black Onyx x <i>Paph.</i> sukhakuli	F.Clarke
Saint Maude	<i>Paph.</i> Saint Queens Bay x <i>Paph.</i> Maudiae	Paphanatics(Stewart Orch.)
Shinonome	<i>Paph.</i> Tsuya Ikeda x <i>Paph.</i> Silvara	T.Takano
Shirawoi	<i>Paph.</i> Winston Churchill x <i>Paph.</i> World Famous	I.Shimizu
Skip Jaguar	<i>Paph.</i> Sparsholt x <i>Paph.</i> Skip Bartlett	T.Ohkubo
Spring Parade	<i>Paph.</i> Maudiae x <i>Paph.</i> Yachiyo Spring	A.Mochizuki
Suisel	<i>Paph.</i> Snowbird x <i>Paph.</i> White Knight	T.Takano
Tin Toy	<i>Paph.</i> Oriental Frieze x <i>Paph.</i> schoserii	A.Mochizuki
Twilight Specter	<i>Paph.</i> philippinense x <i>Paph.</i> Helice	Pine Ridge
Utsusemi	<i>Paph.</i> Kiritsubo x <i>Paph.</i> San Francisco	Dr T.Tanaka
Veiled Cirrus	<i>Paph.</i> Red Maude x <i>Paph.</i> Psyche	Pine Ridge
Vernon Rinke	<i>Paph.</i> glaucophyllum x <i>Paph.</i> Honey	B.Rinke(O/U)
White Dream	<i>Paph.</i> Emerald Dream x <i>Paph.</i> Skip Bartlett	T.Ohkubo
Wonder Stone	<i>Paph.</i> Nettie McNay x <i>Paph.</i> Stone Almost	A.Mochizuki



NAME	PARENTAGE	REGISTERED BY
<b>PHALAEANOPSIS (continued)</b>		
Lea Takahashi	Phal. Red-Hot Chili x Phal. Venimp	Takahashi Orch.
Lili Red Ryder	Phal. violacea x Phal. Carolina Red Zeller	T.Larkin
Luna	Phal. Claude Monet x Phal. Tosca	H.J.Janke
Magic of Grundy	Phal. Stadt Trier x Phal. Porta	Rölike Orchzht.
Memoria Amy Watkins	Phal. Golden Gift x Phal. Cassandra	W.Rippit
Memoria Peter Bailey	Phal. Camay Radiance x Phal. Golden Buddha	John H.Miller
Merriman's Bordeaux	Phal. Carolina Scarlet Queen x Phal. Carolina Red Zeller	Allen Merriman
Miracle Gift	Phal. micholitzii x Phal. gibbosa †	Hou Tse Liu
Miva Gerin	Phal. Chamonix x Phal. Miva Cristal	Michel Vacherot
Miva Lyra	Phal. Cataract x Phal. mariae	Rölike Orchzht.
Mühlhausen	Phal. Struber Gig x Phal. Rousserolle	C.Figietti(Krull-Smith)
Musical Fireball	Phal. Ever-spring Angel x Phal. Zuma's Pixie	Nan Kung
Nanking's Angel	Phal. Super Seven x Phal. Super Pixie	Nan Kung
Nanking's Angel Face	Phal. Gallant Beau x Phal. Zuma's Pixie	Nan Kung
Nanking's Beau	Phal. Zuma Happiness x Phal. Zuma's Pixie	Nan Kung
Nanking's Duki	Phal. Tangier x Phal. Carmela's Pixie	Nan Kung
Nanking's Magic	Phal. Carmela's Spots x Phal. Zuma's Pixie	Nan Kung
Nanking's Mini Spot	Phal. Super Pixie x Phal. Zuma's Pixie	Nan Kung
Nanking's Pixie	Phal. Orglade's Springview x Phal. Zuma's Pixie	Nan Kung
Nanking's Springview	Phal. Zuma's Pixie x Phal. Little Steve	Nan Kung
Nanking's Steve	Phal. Tangier x Phal. Super Tercel	Nan Kung
Nanking's Tercel	Phal. Carmela's Pixie x Phal. Kittawaie	Pine Ridge
Noblen Maguire	Phal. Micro Nova x Phal. Kittawaie	H.Wallbrunn
Octavian	Phal. Leucadia Dazzle x Phal. Su-An Cricket	John H.Miller
Olive Branch	Phal. Little Skipper x Phal. equestris	Pentel
Pentel Baby	Phal. Golden Pecker x Phal. Black Eagle	H.Ginsberg(O/U)
Perfection Is	Phal. Cacharel x Phal. equestris	T.Larkin
Pinkie	Phal. Puppy Love x Phal. Zuma's Pixie	M.Soma
Pinkie Denim	Phal. Malibu White Eye x Phal. Zuma's Pixie	Kokusai(Taida)
Pinkie Eye	Phal. Colleen Carlson x Phal. Lady Whimsey	Orchid Zone(M.Pendleton)
Puppy Love	Phal. Temptation x Phal. Rousserolle	T.Larkin
Quantum Leap	Phal. Red-Hot Chili x Phal. Palno Ruby	Allen Merriman
Ruby Circles	Phal. Stacy Stuart x Phal. Pink Challenge	H.Wallbrunn
Sadie Stuart	Phal. Pine Hill x Phal. Aaron de Valec	Morita Inc.
Sarasro	Phal. White Dream x Phal. Yukimal Dream	Shen Nung Agr.
Secret Dream	Phal. Shirayukhime x Phal. Taisuco Kochidian	Shen Nung Agr.
Sinica Bride	Phal. Taihot Snowdian x Phal. Taisuco Orange	Shen Nung Agr.
Sinica Concerto	Phal. Taisuco Kaaladian x Phal. White Dream	Shen Nung Agr.
Sinica Cramer	Phal. White Dream x Phal. Taisuco Kochidian	Hou Tse Liu
Sinica Ivory	Phal. Miva Smartissimo x Phal. fuscata	Owens Orchids(Cart.& Holmes)
Smart Fusion	Phal. Snow Line x Phal. Florida Snow	M.Soma
Snow Hunter	Phal. Martha's Gem x Phal. Timothy Christopher	T.Nakamura
Sohma Christy	Phal. Rose Water x Phal. equestris	T.Nakamura
Soka Baby	Phal. Camel Point x Phal. Grand City	T.Nakamura
Soka Classic	Phal. Celie x Phal. Leucorrhoda	T.Nakamura
Soka Festival	Phal. Art Hall x Phal. Miki Salto	T.Nakamura
Soka Giant	Phal. Memoria Regina Busse x Phal. Camel Point	T.Nakamura
Soka Point	Phal. Paradise Glow x Phal. Baldan's Big Spot	T.Nakamura
Soka Spot	Phal. Freed's Debonair x Phal. Celie	T.Nakamura
Soka White Doll	Phal. Diane Riggs x Phal. Rose Heart	Allen Merriman(Breckinridge)
Stacy Stuart	Phal. Pixie Dust x Phal. Gladsrose	Orchid Zone(M.Pendleton)
Stardust Pixie	Phal. Golden Brothers x Phal. amboinensis	Chen Gee-En
'Stone Frozen'	Phal. Zora Anatato x Phal. Stone Morning	Chen Gee-En
'Stone Robin	Phal. Sommentau x Phal. Fruhing	Rölike Orchzht.
Stone Robin	Phal. Super Stripes x Phal. venosa	Kokusai(M.Soma)
Sue Jim Kang	Phal. Super Seven x Phal. Carmela's Pixie	Nan Kung
Sunset Maze	Phal. Malibu Imp x Phal. Tigerette	F.J.Bergman(O/U)
Super Night	Phal. Kathrin Rölike x Phal. Porta	Rölike Orchzht.
Tiger Imp	Phal. Golden Bells x Phal. Misty Moon	Phalatics
Tude Stosch-Sarrasni	Phal. Kung's Spice x Phal. violacea	Kokusai(M.Soma)
Twentyfour Carat		
Violaspace		

NAME	PARENTAGE	REGISTERED BY
<b>PHAL/AENOPSIS</b>		
Alexandra Prinzessin zur-Lippe	Phal. Kathrin Röllke x Phal. Rosel Lorenzer	Röllke Orchtz.
Allice Pearce	Phal. Summit Frosty Jewel x Phal. Dawn Treader	Breckinridge
Ambocata	Phal. Priscilla Pyrom x Phal. <i>fuscata</i>	Hou Tse King
Anna Chai	Phal. Märchenfee x Phal. <i>stuartiana</i>	S.Roccatofo
Anna Leeping	Phal. Märchenfee x Phal. Riffi	N.Porter
Arctic Threshold	Phal. Surfride x Phal. Antartic	Pine Ridge
Austria	Phal. Schwarzwald x Phal. Double Delight	H.Janko
Barbara	Phal. Carmela's Spots x Phal. Adelaide Skoglund	Elmore Orch.
Bavarian Orange	Phal. Bavarian Gold x Phal. Astral	Kaiser Orch.
Bavarian Pink	Phal. Bavarian Lady x Phal. Malibu Pride	H.Ginsberg
Bedford Buddha	Phal. Golden Buddha x Phal. Brother Lawrence	H.Ginsberg
Bedford Buddha's Imp	Phal. Golden Buddha x Phal. Zuma's Pixie	H.Ginsberg
Bedford Golden Berry	Phal. Taipei Gold x Phal. Goldberry	H.Ginsberg
Bedford Sprite	Phal. Terilyn Fujitake x Phal. Carmela's Pixie	H.Ginsberg
Best Moon	Phal. Sweet Moon x Phal. Musashino Moon	Morita Inc.
Bettinasatin	Phal. Rose Salin x Phal. Bettinarose	Orchideen Koch
Blackwede	Phal. Tyler Carlson x Phal. Sonnentau	Röllke Orchtz.
Brecko Cordabreak	Phal. Cordova x Phal. Golden Daybreak	Breckinridge
Brecko Kingtris	Phal. King's Ransom x Phal. <i>questris</i>	Breckinridge
Brecko Natakup	Phal. Natasha x Phal. Hausmann's Goldcup	Breckinridge
Brecko Starnore	Phal. Glenmore x Phal. Star of Dixie	Breckinridge
Brecko Wildpie	Phal. Brecko Candyple x Phal. Carmela's Wild Thing	Breckinridge
Brother Fanny Cassandra	Phal. Brother Fanny x Phal. Cassandra	Peter Lin(Brother)
Bulleseye	Phal. Bluequill Dragon Devil x Phal. Golden Buddha	John H.Miller
Carol Vaughn	Phal. Bill Ochs x Phal. Devon Michele	H.Woodson
Cellini	Phal. gigantea x Phal. Sabine Meyer	H.Wallbrunn
Charming World	Phal. Orchid World x Phal. Liu Tuen-Shen	M.Soma
Cherry Jewel	Phal. Pin Up Girl x Phal. <i>questris</i>	Morita Inc.
Chibby	Phal. Sohma Julip x Phal. <i>parishii</i>	M.Soma
Clotilde's Song	Phal. Party Dress x Phal. Antarctic	Pine Ridge
Copper Coin	Phal. Bluequill Dragon Devil	
Cosmo-Garneteje	Phal. x Phal. Hausmann's Goldcup	John H.Miller
Demoiselle de Rochelfort	Phal. Gamelfrost x Phal. Zuma Red Eye	Kokusai
Essence Wain	Phal. Fidelite x Phal. Cini	Vach. & Lec.
Eva's Nevado Puro	Phal. gigantea x Phal. <i>philippenis</i>	S.F.Chen
First Rays Anethyst	Phal. Hinamatsuri x Phal. Arai	Orquideas Eva
First Rays Sunspots	Phal. Paifang's Auckland x Phal. <i>mariae</i>	First Rays(O/U)
Floribails	Phal. Golden Horizon x Phal. Arromanches	First Rays(O/U)
Floreric Chopin	Phal. <i>anabilis</i> x Phal. <i>floresensis</i>	E.Burkhardt
Fred's Buddha	Phal. Spirit House x Phal. Malibu Hair	B.Woodson
Fred's Goldberry	Phal. Rayridge Gold x Phal. Golden Buddha	F.J.Bergman
Fred's Red	Phal. Eighteen Karat Gold x Phal. Misty Green	F.J.Bergman
Fred's Token	Phal. Spirit House x Phal. Tiger Imp	F.J.Bergman
Fred's Whitestar	Phal. Little Pink Doris x Phal. Classic Beauty	F.J.Bergman
Grübrider Grimm	Phal. Eunice Youngman x Phal. Antarctic	Röllke Orchtz.
Giant Red Fire	Phal. Roulette x Phal. <i>indenii</i>	Peter Lin(O/U)
Glacial Quintessence	Phal. Talung's Red Fire x Phal. <i>gigantea</i>	Peter Lin(O/U)
Gold and Rubies	Phal. Martha's Gem x Phal. Henriette Lecouffe	TLarkin
Golden Age	Phal. Carolina Yellow Gold x Phal. Carolina Red Zeller	Pine Ridge
Golden Dragon	Phal. Sarah Frances Pridge x Phal. White Dream	Morita Inc.
Gomachan	Phal. Goldiana x Phal. White Dream	Morita Inc.
Heather Lindsay	Phal. Rousserote x Phal. Marie Noëlle Bérard	M.Soma
Hilda Heinemann	Phal. Mirvacorne x Phal. Ida Fukumura	P.Lindsay
It Snowunder	Phal. Barbara Moler x Phal. Wunderblume	Orchideen Koch
Kanosa Snowfall	Phal. Cherokee Snow x Phal. Carmela's Wonder	Breckinridge
King Solomon's Mine	Phal. Hakalau Queen x Phal. Hawaiian Snowfall	Lehua(Carmela)
Kochs Topfchen	Phal. Bluequill Daisy x Phal. Su-An Cricket	John H.Miller
Krull's Aire	Phal. Raunreif x Phal. Arromanches	Orchideen Koch
Lady Whimsy	Phal. Carmela's Stripe x Phal. Dame de Coeur	Krull-Smith
Lemon Dream	Phal. Whimsy's Strip x Phal. Lady Ruby	Kokusai(Taida)
Lenneherz	Phal. Brother Stripes x Phal. Deventeriana	Kokusai(M.Soma)
Lennehsatin	Phal. Rosenmorgen x Phal. Tungku Azran	Orchideen Koch
	Phal. Arromanches x Phal. Rose Satin	Orchideen Koch



NAME	PARENTAGE	REGISTERED BY
<b>PHALAENOPSIS (continued)</b>		
Woodson's Hot Lips	<i>Phal.</i> Line Renaud x <i>Phal.</i> Garnetfrost	B.Woodson
Yellow Tulip	<i>Phal.</i> Capeline x <i>Phal. philippinensis</i>	Hou Tse Liu
Zaubersatin	<i>Phal.</i> Rose Satin x <i>Phal.</i> Zauberrose	Orchideen Koch
<b>PHRAGMIPEDIUM</b>		
Cape Sunset	<i>Phrag.</i> Eric Young x <i>Phrag. schlimii</i>	M.Tibbs
Fauvic	<i>Phrag.</i> Memoria Dick Clements x <i>Phrag.</i> Ecua-Bess	E.Young O.F.
Golden Dawn	<i>Phrag.</i> Little Dragon x <i>Phrag.</i> besseae	Orchid Zone(M.Pendleton)
Green Dragon	<i>Phrag.</i> Grande x <i>Phrag.</i> Court Jester	M.LeDoux
Green Ghost	<i>Phrag. wallisi</i> x <i>Phrag. czerniakowianum</i>	M.LeDoux
La Rosiere	<i>Phrag.</i> Olaf Gruss x <i>Phrag. besseae</i>	E.Young O.F.
<b>PLEIONE</b>		
Adams	<i>Plin.</i> Keith Rattray x <i>Plin.</i> Surtsey	I.Butterfield
Axel Shan	<i>Plin. hookeriana</i> x <i>Plin. humilis</i>	J.Berg
Mageik	<i>Plin.</i> San Salvador x <i>Plin.</i> Berapi	I.Butterfield
Mawenzi	<i>Plin. yunnanensis</i> x <i>Plin. scopulorum</i> †	I.Butterfield
<b>POTINARA</b>		
Abra Cadabra	<i>Blc.</i> Bryce Canyon x <i>Soph. cernua</i>	Fordyce
Cerritos' Sol	<i>Blc.</i> Love Me Tender x <i>Pot.</i> Orient Zac	Orquideas Eva
Cherries Jubilee	<i>Blc.</i> Horizon Flight x <i>Sl.</i> Psyche	Fordyce
Chichi	<i>Blc.</i> Terri Dupriest x <i>Pot.</i> Cherry Bates	W.L.Bates
Cosmo-Buttercup	<i>Pot.</i> Waianae Orange x <i>L. anceps</i>	Kokusai
David Tomassini	<i>Lc.</i> Brilliant Orange x <i>Pot.</i> Free Spirit	Fordyce
Eva's Armonia	<i>Pot.</i> Orient Zac x <i>C. Princess Bells</i>	Orquideas Eva
Eva's Caminito	<i>Pot.</i> Orglade's Spice x <i>Blc.</i> Shiral Sunset	Orquideas Eva
Eva's Cadabra	<i>Pot.</i> Orient Zac x <i>Pot.</i> Gorgeous Green	Orquideas Eva
Full Circle	<i>Blc.</i> Norman's Bay x <i>Slc.</i> Mahalo Jack	Fordyce
Golden Jubilee	<i>Blc.</i> California Apricot x <i>Blc.</i> Pokai Tangerine	T.Adamski
Harvest Belle	<i>Pot.</i> Lemon Tree x <i>Pot.</i> Scott's Rainbow	F.F.Missbach(N.Nash)
Heavenly Heritage	<i>Pot.</i> Heavenly Jewel x <i>Blc.</i> American Heritage	Fordyce
Jungle Serendipity	<i>Slc.</i> Jungle Beau x <i>Blc.</i> George King	Kokusai
Memoria Maye Ramsey	<i>Blc.</i> Mac Holmes x <i>Slc.</i> California Apricot	Fordyce
Niña Tropical	<i>Blc.</i> Orange Nuggett x <i>Slc.</i> Anzac	R.Sobrinho
Sky Dancer	<i>Pot.</i> Spicey x <i>L. anceps</i>	Fordyce
Tom's Tangerine	<i>Soph. coccinea</i> x <i>Blc.</i> Pokai Tangerine	T.Adamski
Waianae Orange	<i>Slc.</i> Hazel Boyd x <i>Blc.</i> Buttercup	Kokusai(R.Takafuji)
Wise Lemon	<i>Pot.</i> Twentyfour Carat x <i>Slc.</i> Memoria Matthew Wise	F.Clarke
<b>RODICIDIUM</b>		
New Vintage	<i>Onc.</i> Memoria Rita Darby x <i>Rdcm.</i> Ray Millard	J.Adams(Richella)
<b>RONNYARA</b>		
George Heider's Delight	<i>Vasco.</i> Precious x <i>Rnya.</i> Blue Delight	G.&M.Heider
Lim Kwee Neo	<i>Vasco.</i> Tham Yuen Hae x <i>Aér. mirrata</i>	Harold Johnson (Suphachadiwong)
<b>SOPHROLAELIOCATLEVA</b>		
Berry Punch	<i>Slc.</i> Beloved x <i>C.</i> Horace	Fordyce
Little Lassie	<i>Sc.</i> Beaurort x <i>Lc.</i> Colorama	Fordyce
Magic Spell	<i>C.</i> Brabantiae x <i>Slc.</i> Madge	Fordyce
Mahogany Drop	<i>Lc.</i> Orglade's Cheer x <i>Slc.</i> Golden Wax	F.Clarke
Rockette	<i>Lc.</i> Koolau Seagulls x <i>Sc.</i> Beaufort	Fordyce
Ruby Treasure	<i>Slc.</i> Mini Doris x <i>Slc.</i> Golden Wax	F.Clarke
Sizzler	<i>Slc.</i> California Apricot x <i>L. anceps</i>	Fordyce
Spirit Sprite	<i>Slc.</i> Precious Stones x <i>Slc.</i> Seagulls Apricot	Fordyce
Sweet Treats	<i>Sc.</i> Crystelle Smith x <i>L.</i> Finckeniana	Fordyce
Victoriana	<i>Lc.</i> Drumbeat x <i>Slc.</i> Sue Fordyce	Fordyce
<b>STELLAMIZUTAARA</b>		
Miva Passionata	<i>Ctna.</i> Orglade's Little Lover x <i>Bc.</i> Pastoral	Michel Vacherot
NAME	PARENTAGE	REGISTERED BY
<b>TRICHOPIA</b>		
Warsaw Rose	<i>Trpla.</i> <i>suavis</i> x <i>Trpla.</i> Charlotte	W.Klikunas
<b>VANDA</b>		
Allie Mulliken	<i>V.</i> Tom Ritter x <i>V.</i> Kasem's Delight	T.Ritter
Cristina Saralegui	<i>V.</i> Suwapee x <i>V.</i> Fuchs Delight	Orchid Mania(Motes)
Helene Owen	<i>V.</i> Fuchs Delight x <i>V.</i> Motes Blue Centurion	Motes
Kasem Wirat	<i>V.</i> Kasem's Delight x <i>V.</i> Wirat	T.Orchids
Memoria Madame Keereboon	<i>V.</i> Mano x <i>V.</i> coerulea	Keeree
Pachara Delight	<i>V.</i> Karulea x <i>V.</i> Gordon Dillon	PPacharapong(S.Oun-Anong)
Pak-Numpo	<i>V.</i> Pimporn x <i>V.</i> Faye Bennett	Suksan
Srisupan	<i>V.</i> Lumpini Red x <i>V.</i> Chindavat	PPacharapong(D.Rodsawat)
Tubtim Korat	<i>V.</i> Charungraks x <i>V.</i> Bangkok Sunrise	B.Buranasin
Wat Uttamayanmuni	<i>V.</i> Charles Goodfellow x <i>V.</i> Motes Ginger Pied	Harold Johnson
<b>VASCOSTYLIS</b>		
Bangsai Gold	<i>Vasco.</i> Somsak's Delight x <i>Asctrm.</i> Mee	S.Apisho
Veearwan	<i>Vasco.</i> Veeraphol x <i>Rhy. coelestis</i>	VPattarachokhuay
<b>VUYLSTEKEARA</b>		
Aloha Passion	<i>Vuy.</i> Memoria Mary Kavanaugh x <i>Oda.</i> Alcatraz	J.McCully(T.Perlite)
Alona Sparks	<i>Odnra.</i> Lorraine's Fourteenth Woc x <i>Oda.</i> Redhot Spark	J.McCully
Lord Kai	<i>Mitt.</i> Ka Moi x <i>Oda.</i> Keith Gaskell	R.Stevens(George Black)
Nick Stevens	<i>Vuy.</i> Lady Kai x <i>Oda.</i> Joyful Cathay	R.Stevens(George Black)
Royal Gems	<i>Vuy.</i> Lord Kai x <i>Oda.</i> San Elijo Gem	R.Stevens(George Black)
<b>WILSONARA</b>		
Balam	<i>Onc.</i> Macmex x <i>Oda.</i> Wearside Wonder	H.Rohrl
Copan	<i>Odcdm.</i> Ryoko Miyamoto x <i>Oda.</i> Janis Andrew	H.Rohrl
Royal Forest	<i>Wis.</i> Tigerwood x <i>Odm.</i> Royal Event	R.Stevens(George Black)
Space Berry	<i>Wis.</i> Bouley Bay x <i>Odcdm.</i> California Gold	Orchid Zone(M.Pendleton)
Yellow Somebody	<i>Wis.</i> Space Flower x <i>Oda.</i> Strawberry	H.Rohrl
<b>ZYGOPETALUM</b>		
Blue Blazes	<i>Odcdm.</i> Tiger Hambühren x <i>Oda.</i> Somebody	Mukoyama(Geyserland)
Eden	<i>Z.</i> Blue Banks x <i>Z.</i> Kiwi Geyser	Orchid Zone(Brookside)
Elaine	<i>Z.</i> B. G. White x <i>Z.</i> Kiwi Geyser	Orchid Zone(M.Pendleton)
Gidget	<i>Z.</i> Kiwi Choice x <i>Z.</i> mackayi	W.Fisher
Margaret	<i>Z. triste</i> † x <i>Z.</i> John Banks	W.Fisher
	<i>Z.</i> Gary Baker x <i>Z.</i> Kiwi Choice	W.Fisher
\$ First registration, as a grex, of a natural hybrid- <i>Paphiopedilum Fanaticum (malipoense x micranthum)</i>		
† Species appearing for the first time as parents in registration:- <i>Barkeria strophias; Epidendrum melanoporphyrum; Masdevallia ova-avis; Masdevallia pulcherrima; Odontoglossum praestans; Oncidium laxense; Phalaenopsis gibbosa; Pleione scopulorum; Zygotetulum triste</i>		
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## BOOK REVIEW

*A Selection of Native Philippine Orchids*  
 by Hans H. Fessel and Peter Balzer.  
 192 pp. 210mm x 150mm Softcover.  
 Published by Times Editions,  
 Singapore

Available from the American Orchid Society, USD\$14.95

Website: <http://orchidweb.org>

E-mail: [TheAOS@compuserve.com](mailto:TheAOS@compuserve.com)

This handy little book, of 192 pages, is very well written and illustrated. There are 135 species described and depicted plus another eleven different species that are mentioned in the text. The chapters include an Introduction; History; Distribution of orchids; What is an orchid?; Orchid taxonomy; Plant names; Vegetative characteristics of orchids (this chapter is particularly well illustrated with three very informative groups of pictures); Pollination and germination; Orchid species (the most important part of the book); Glossary; Selected bibliography; Index of scientific names and synonyms; Acknowledgments and Photographic credits.

In my opinion the chapters could all have had just a little more information because what has been written is very basic, but still informative.

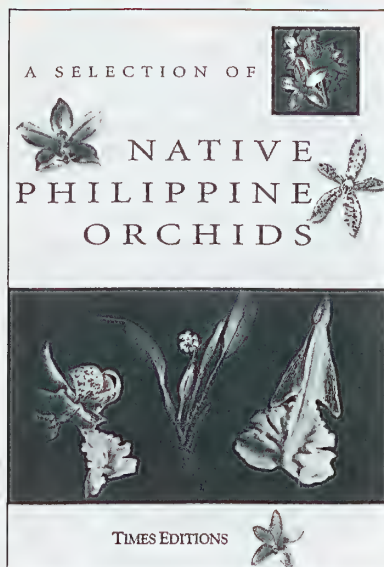
The plants described and illustrated include 10 species of *Paphiopedilum*, 11 *Dendrochilum*, 28 *Dendrobium* and 19 *Phalaenopsis* species, plus a good number of Philippine species I have never seen illustrated previously. The photography is excellent and of there are illustrations of the diagnostic feature(s) of the particular species depicted.

It is particularly pleasing to see pictures of the true *Coelogyne confusa* and *C. mar-morata*, two species which are commonly confused (though not with each other). *Liparis latifolia* is also depicted; this is a species that is quite commonly seen in Australian collections as *Liparis nutans* (a species which belongs to the same section as *Liparis philippinensis*). The clone of *Megalotus bifidus* appears to be an albino form of the species as all other clones of this orchid that I have seen have green sepals and petals and a white labellum with a little purple spot. The well-known *Dendrobium miyakei* is also illustrated under its correct name *Dendrobium goldschmidtianum*. For me, being a lover of the genus *Bulbophyllum*, it is disappointing to see only three species in the book.

Unfortunately, there are a number of errors in this 192-page work:

\* Page 39. The correct name for *Paphiopedilum elliotianum* is *P. adductum*, almost all current authors accept this. Guido Braem is quoted from his 1988 volume, yet he clearly accepts *P. adductum* in his 1999 edition.





should be in every orchid society library and in the library of all species growers. ■

**Jim Cootes,**  
*Oriental Mindoro,*  
*Philippines*

***Orchids of Peru: Volume 1***

by Dr. Isaias M. Rolando  
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NSW 2229.

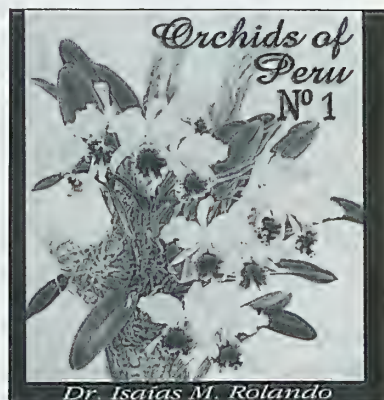
E-mail: [cattleya@ozemail.com.au](mailto:cattleya@ozemail.com.au)

As the theme of the World Orchid Conference in Vancouver was Orchid Conservation, many of the speakers at the Lecture Sessions told of the conservation problems in their own countries. One of these was Dr. Isaias Rolando of Peru. He described how that in the last two centuries since the introduction of the orchids from Peru to Europe, the Andean and Amazonian regions of Peru have been extensively collected for commercial purposes by firms such as Sanders, Veitch, Linden and others. In this century over collecting of orchids has only been surpassed by clearance of the land for agriculture or for timber. Natural fires in some areas have also diminished the natural population of orchid species. In 1991 the Government of Peru introduced a law to protect Orchid Flora, and the Ministry of Agriculture together with Club Peruano de Orquideas are collaborating to educate the public on the importance of conservation by National Conferences, International Orchid Shows, Seminars and so on.

The private effort of "Tourism Enterprises" in Machu Picchu participated in this national project. The Machu Picchu Pueblo Hotel, after 10 years work, studying, rescuing and gardening in the natural environment, has a collection of more than one thousand orchids of the same species that grow (but not collected from) in the Sanctuary of Machu Picchu distributed in a private facility named "The Orchid Trails at Machu Picchu Pueblo Hotel". This not only conserves the orchids, and makes the public aware of Orchid Conservation but also offers a field for research into the orchids and the best way to protect them. It encourages orchid lovers around the world to come and see Peruvian orchids in the wild. Unfortunately we are not all able to visit, but Dr. Rolando suggested an alternative - get the CD "*Orchids of Peru No.1*" and see it on your computer, accompanied by the music of the country. The program runs with Windows 95 to Windows 98. For best performance PC Pentium II 200 MHZ or higher and 32 MB RAM or higher is recommended.

This CD is easy to load and play. At the

beginning of the seven different choices the "Story of how the Princess became the beautiful *Masdevallia veitchiana*", to the music of the nose flutes, then look at the map of the trail and location of the Hotel. Visit the Hotel and follow the trails used by the Inca Princess in the hotel gardens looking at the orchids while listening to the music. Here you will see bromeliads, birds, butterflies and orchids such as *Sobralia dichotoma*, *Anacheilum vespa*, *Pleurothallus* sp., many different Epidendrums, Cattleyas, Lycastes, *Cochleanthes* and more. Next open "Other Peruvian Orchids" (too many to list here) and find out their location, and the environment in which they grow. Find the



list of the 1850 species of orchids of the country and open "Orchid Pictures". This is a delightful CD, the photography is excellent, and there are some photos of the country and the Inca ruins of Machu Picchu as well. No need to complain about nothing on TV, get on to the computer and spend pleasant evenings in Peru and may be, in such a way also help Orchid Conservation. ■

**Ruth Rudkin**  
*Lindfield NSW.*

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\* Page 40. The single flower in the picture of *Paphiopedilum fowliei* is without a doubt *P. urbanianum* (note the markings on the staminode and compare with the illustrated *P. urbanianum* on page 45).

\* Page 54. The flowering plant in the illustration of *Coelogyne rochussenii* appears to be the well-known (and quite different) *C. flaccida*. The inflorescences of *C. rochussenii* are more densely flowered than the depicted plant.

\* Page 70. The plant shown as *Dendrobium anosmum* var. *huttonii* is not that variety. The upright growth habit does not occur in *D. anosmum* or any of its varieties, except in very small seedlings. The labellum is also a different shape and I have never seen a *D. anosmum* var. *huttonii* with yellow markings around the purple blotches on the labellum. Further investigation may prove the illustrated plant to be an undescribed species.

\* Page 78. My investigations have found that *Dendrobium distichum* is synonymous with the widespread *D. indivisum*.

\* Page 83. The illustrated plant is the recently described *Dendrobium setigerum* Ames ex M.A. Clem. (*Australian Orchid Review* Dec. 99/Jan. 00).

\* Page 87. This species is without question *Dendrobium auriculatum*.

\* Page 95. The correct name for this plant is *Epigeneium treacherianum*.

\* Page 111. *Phalaenopsis mearnsii* should read *P. mearnsii*.

\* Page 172. *Vanda roeblingiana* was named after Mr. Charles Roebling of New Jersey, USA and not Sander's collector Carl Roebbelin.

Apart from the relatively few taxonomic mistakes, and the inevitable typographical errors this is an easy-to-read book that



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## Cattleyas

Give plants plenty of air and light during the growing season. If plant is growing over the side of the pot – back cut three to four bulb back along the raceme. Do not sever the rhizome completely. A good pair of long nose pliers does a good job. They are also lovely for pulling out those 'hard to get at' weeds. The ones that always leave their roots behind in the compost!

When you water your plants give them a good soaking to wash out all those salts that have been accumulating over the winter months. Depending on weather conditions you may find that you will only have to water every four or five days. You will have to water more often if you grow in a shade house compared to a glass house.

Fertilise weekly with GARDEN PARTY® or a good quality FISH EMULSION.

If your plants are prone to bulb rot, – give plants a drench with FOLI-R-FOS® every twenty one days. Don't forget to add a surfactant with it (not an oil) such as WA-100®.

Watch for scale and mealy bugs. If present spray with PEST OIL® or use NATRASOAP® mixed with SPRAYTECH OIL®. Do not use oils if plants are in bud or bloom.

If your plants are growing in sphagnum moss, now is a good time to take them out of it and replace with some nice fresh moss. Do not over water if you grow in moss, also do not press the moss down too hard in the pot! A layer of gravel over the moss after repotting stops the birds from pulling the moss out and I have been told it also helps keep the snails and slugs away!

Seedlings can also be potted on. This will ensure good growth through the summer – autumn period. After repotting your seedlings, a couple of applications of your favourite rooting hormone will start the new roots into growing mode.

## Cymbidiums

At last the year 2000 has arrived. Have you made out a set of rules that you will adhere to for the next twelve months? Well for a start you could do some of the following.

1) I will always water my plants when needed – in other words I will not over water or let my plants dry out too much.

2) I will fertilise my plants regularly.

3) I will repot my plants when needed – not next year.

4) I will always space my plants out properly. Not too close. Remember the old rule – you should be able to place a plant between plants!

5) I will give my plants plenty of light without burning.

6) I will keep two-spotted mites under control.

7) I will control all fungal diseases in my green house. If my plants are prone to disease I will try and find out why!

8) When I am dividing my plants I will always practice safe hygiene. i.e. I will only use clean sterilised cutting implements.

9) I will always dispose of virus infected plants in such a way that they will be unobtainable by other people.

10) I will buy at least six seedlings per year.

If we carried out some of the above sugges-

tions I feel sure we will enjoy our hobby a lot more.

As summer is now with us our plants are now initiating next seasons racemes. A good watering every second or third evening, depending on climatic conditions will certainly keep your plants in top condition. A good time to do this is just on dusk. If you water by hand give the plant a good squirt with the hose under the leaves. This will help to keep the two-spotted mites under control. They do not like the high humidity – wet conditions under the leaves. It is certainly cheaper than insecticides!

During summer, many of the older generation used to top dress their plants with super fine superphosphate. To this they used to add some blood and bone and a little sulphate of potash. During that era a tablespoon of Epsom salts was applied every couple of weeks. (Henry Boyd wrote an interesting article on this many years ago). Today most growers just add a little magnesium to their fertiliser. If you do not want to mix up a home brew:- you can top dress with a balanced 3 to 4 month controlled release fertiliser.

As autumn approaches you can start to pot on those over grown seedlings. After repotting add some CROPMAX® to your fertiliser. This will give your seedlings a boost. Don't let your seedlings dry out as it will stop the growth pattern.

If you are into flasks, they can also be planted out. Don't forget, when taking these little plants

out of their little home inside the bottle, soak in a fungicide before planting. Spray with ENVY® every fourteen days. After three weeks a little rooting hormone will help kick the plants along. After four to six weeks a very light application of fertiliser plus CROPMAX® will start to get the plants into growth mode. You can use WUXAL® VITAL® or GARDEN PARTY®. For a start use at half strength.

If you are troubled with black spot make sure you spray every 21 days with one of the following. MANCOZEB, ZINEB, or one of the triforine sprays that are available at your local garden centre.

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## Natives

There are not many native orchids in bloom at this time of year although many are coming into bud ready for the autumn flowering period.

This is a good time to start doing a bit of cleaning up. If you've been busy over summer, on holidays or it has been too hot to work outdoors you may wonder where to start. I will admit that I have been guilty of neglecting my plants but it seems that whenever I decide to go out and work on them our local roving koala has settled for the day right above the table where I work!

When you do get to have a good look, chances are that you will find that weeds have settled into pots, there are dead leaves and pseudobulbs all over the place and the under bench greenery has gone rampant. Things probably aren't as bad as they look. Our native orchids are generally pretty tough and if they have been watered they should be fine although it might take a few hours to get them looking that way. Just a little time can work wonders.

If you can't do anything else at this time give your plants a feed. This is particularly important if they have been neglected. The days are still quite warm and any fertiliser will be used. Don't try to make up for a summer of neglect by giving huge doses – the usual dilute mixture will be fine. You don't want to encourage more new growth at this time of year so use a fertiliser with a low nitrogen (N) content – there are plenty available.

Next, pull out any grass or other weeds that are large enough to get hold of easily. If left they will drop seeds, making removal next year more difficult and they also have large root systems which compete for water and nutrients and clog up air spaces in the media. Cut the weeds off and put aside or mark any plants that have had weeds which really took over the pot. These plants may have to be repotted. Tip them out and see if the weed's roots will have matted in the media. It is impossible to keep weeds out completely. I'm sure the seeds blow in on the wind but removal now will reduce the supply for the next year.

Now have a good look around at plant growth around the collection. Have any plants outgrown their pots to the extent that the pot is misshapen or split? Do any of these plants have new growths which are still immature and without roots? If these new growths are going to be deformed, the plant should be repotted now. Any plants in split pots and any that have finished growing can wait until spring.

Look for unthrifty plants. This could be the result of any number of things but needs to be investigated. Lack of water from a blocked mister or overlarge plant will result in dead leaves on several plants growing side by side.

Many dead leaves and pseudobulbs are often a sign of stress. There will be loss of some of the older growths every year as part of the natural ageing of the plant but excess loss and weak new growth is a sign of problems. Remove any dead leaves and pseudobulbs and have a good look at the plant. Does it look healthy? If not, see if the plant is firmly anchored in the media. Root rot and root chewing pests such as slugs, slaters and worms destroy the roots and the plant will become

wobbly and may even fall out of the pot.

Any poorly anchored plant should be looked at carefully. Was it recently repotted and the root growth late or slow? Are there any tell tale signs of pests such as worm castings or slug slime? If there are, submerge the pot in water for a couple of hours and see what climbs out. If not, you could have loss of the root system due to rot of some form. The reasons could be media that has broken down due to excess water, age or poor quality or from weed roots or chewing pests. Ants introduce a lot of dirt. Overlarge pots can also result in root loss.

Mounted plants should be carefully watched at all times. They have little resources and lack of water and feed can result in a major setback very quickly. Borers are the biggest pest in timber mounts. They are easily spotted by the pile of fine sawdust under the affected mount. If you can reach the hole, insert a fine wire and kill the pest. If the mount is badly damaged it will have to be replaced. This is better left until spring unless there is not enough of it left to support the plant.

Once the plants are looking better, spend a bit of time removing smaller weeds from the pots and weeds and excess growth from under the benches. They have done their work maintaining humidity levels and now need to be cut back so they don't harbour pests and prevent air movement.

Although the days are usually quite warm to hot in most areas there have been occasional very cold nights reported in March. A chill in the night air by the end of March is to be expected. Given the changeable and extreme conditions seen over summer, any cold sensitive plants should be given protection early as a precaution. Make sure that the vents in the greenhouse seal properly and check the heater is working if you have really sensitive plants or are in an area where frosts can occur this early. These chilly nights can cause bud drop in autumn flowering plants with tropical origins, such as the *Dendrobium bigibbum* complex.

And yes, it is an ideal time to deflask that bottle of seedlings which has been sitting on the kitchen bench all summer.

## Paphiopedilum

The weather is normally hot and, particularly during February, quite humid. If you haven't taken precautions against mealy bug and scale, keep an eye out. Scale usually only becomes a problem in collections which have been neglected and can usually be traced to host plants, often ferns. Mealy bug, on the other hand, can appear almost out of the blue and you can have a major infestation before you notice it. Both these pests can be controlled with 'Malascale'; repeat spraying may be necessary.

Care of Paphs. during this period of the year consists mainly of routine watering and the regular application of soluble fertiliser as advised previously, still taking care to avoid overwatering. When the nights are hot it is better to water during the evening to induce a temperature drop about nightfall; this will assist promote flowering and, in my experience, help avoid deformed flowers.

Excessively high temperatures should be avoided by whatever means you have at your

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disposal. In the bush house, shading and simple misting of the plants is all that can practically be done; natural air movement usually avoids problems under these conditions.

Glass houses can present problems with excessive heat during summer, particularly if they are small. An adequately sized evaporative cooler is a very useful, albeit costly, device for creating good summer growing conditions in the glasshouse. The cooler must be so installed that it draws fresh air from outside. — recirculation is useless. Sufficient ventilation should be provided at the top of the house to ensure that the cooler operates without back pressure. A simple thermostat, set at about 28 degrees Celsius, is sufficient control; this may need to be wired through a relay.

In the absence of an evaporative cooler, summer temperature control is best achieved by a combination of ventilation, shading and misting. Whilst shade cloth over, and some distance away from, the glass helps with cooling — and can conveniently be removed during the cooler months — a thin coat of white paint in addition is almost always necessary. A vinyl water base paint, thinned with three or four times its volume of water, is very suitable. Don't use an Acrylic paint, it is almost impossible to remove.

## Phalaenopsis

**Potting:**— All repotting of flowering size plants should have been completed (and all old

flower spikes removed) by December. Small plants can still be potted on and compots potted out.

**Watering:**— Water daily — preferably in early mornings. If heavy rains occur it is preferable to keep plants under a solid roof.

**Light:**— Plants still require 90% shade at this time of year.

**Fertiliser:**— Do not fertilise dry plants — always water beforehand. Fertilise weekly alternating over a 4 weekly cycle as follows—

- Wk.1. — Inorganic low Nitrogen
- Campbells A., Aqua K.
- Aquasol or Phostogen.

Wk.2. — Wuxall Folair.

Wk.3. — Inorganic low Nitrogen — as for wk.1.

Wk.4. — Organic — Fish emulsion or Nitrosol.

The change to low Nitrogen/higher potash inorganic fertilisers is to harden plants for winter and promote better flowering.

**Pest Control:**— Watch for fungus and rot. Spray with Mancozeb and Kocide every 4 weeks or alternatively use Ridamil MZ WP.

Spray with Diazanone, Malathion or Pyrethrum to control scale and insect pests.

Keep a watch for mites and spray with a miticide as necessary.

## Vandaceous

**Watering:**— Don't allow to dry out. Water thoroughly every day. In very hot dry conditions water in early mornings and mist again late afternoon.

## Valley Orchids

As from May 2000, the nursery will be open to the public each Saturday, from 8am till 1pm.

There will be a huge range of flowering size plants available, including varieties specially selected for our own use, & previously not seen by the orchid community at large.

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We intend to open up the collection to all orchid lovers (over the last few years it has been closed to the public). Any enquiries are welcome.

The nursery will operate from the old address at 156 Pimpala Road, Morphett Vale, South Aust.



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**Light:**— Strap leaf vandas, ascocendas and other vandaceous genera with wide leaves require 50% to 70% shade although semi-terete and other narrow leaf types will be okay with 30%.

**Fertiliser:**— Do not fertilise dry plants. Always water beforehand. Fertilise weekly alternating over a 4 weekly cycle as follows—

- Wk.1. — Inorganic low Nitrogen
- Campbells A., Flowfeed HP8.
- or Aqua K.

Wk.2. — Wuxall Folair.

Wk.3. — Inorganic low Nitrogen — as for wk.1.

Wk.4. — Organic — Fish emulsion or Nitrogen.

**Pest Control:**— Fungicide every 6 weeks (e.g. Daconil, Wetttable Sulphur or Ridomil MZ WP).

Use Diazanone, Malathion or Pyrethrum to control insects.

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### CYMBIDIUM CLUB OF AUSTRALIA INC.

Meetings are held on the 2nd Thursday of each month (except December, January and February)

Meetings commence 8.00 p.m.

Venue: Lakemba Chapter Remembrance Hall, 220 Lakemba Street, Lakemba, Sydney, N.S.W.

For further details contact Secretary, William Jablonski,

Orchidland Nursery, 7 Nicholli Place, Kenthurst, N.S.W. 2156 Phone: (02) 9654 9464, AH (02) 9654 8189

President, Mal Ferguson, Phone: (02) 9871 8993

### CYMBIDIUM CLUB OF SOUTH AUSTRALIA INC.

Meetings are held on the 4th Wednesday of each month (except December and January)

Auditorium open from 7.00 p.m. — Beginners' Group commences 7.20 p.m.

Main Meeting commences 8.00 p.m.

Venue: The Burnside Community Centre, 401 Greenhill Road, Tasmore, Adelaide, S.A.

For further details contact Secretary, Yvonne Longbottom,

12 Joanne Terrace, Parafield Gardens S.A. 5107

Phone: (08) 8258 3435

President, Ray Brady, Phone: (08) 8254 7136

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Meetings are held on the 1st Thursday of each month (except January and February)

Beginners' Group commences 7.30 p.m. — Main Meeting commences 8.00 p.m.

Venue: Redcliffe Hall, Morrison Road, Redcliffe, W.A.

For further details contact Secretary, Mrs Jacqueline Davies, PO Box 40, Guildford, WA 6935 Phone:

(08) 9279 4634 — President, Peter Wise

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### THE CYMBIDIUM ORCHID SOCIETY OF VICTORIA INC.

Meetings are held on 2nd Tuesday of each month (except January)

Popular Vote commences 7.50 p.m. — Main Meeting commences 8.00 p.m.

Venue: Mt. Waverley Youth Centre, Millers Crescent, Mt. Waverley, Victoria.

For further details contact Secretary, Kevin Brown,

4 Riviera Street, Mt Waverley, Victoria 3149 Phone:

(03) 98081224

President, Andy Leamon, Phone: (03) 97967935





# Cymbidiums Australia

Presented by the Australian Cymbidium Society Inc



## Editor's Report

### A bright, new future

As we head off into the new millennium, let's take the opportunity to throw away that "old baggage" we've been carrying. A fresh new start can be made, as we look forward towards a bright new future. May I wish each one of you a very happy and prosperous New Year.

It was a most pleasurable and stimulating experience to meet with the executive of the Australian Orchid Review last November. Everyone present came away feeling positive about the challenge to make this magazine the very best of its kind in the world (it already is). New initiatives will be announced in due course, along with new ideas and segments to make even better reading.

### From snake pit... into lion's den

Change simply for the sake of being different should never be considered as an alternative choice. However, I was exceptionally pleased by the Australian Cymbidium Society delegates' decision to implement a National Judging Guideline for Cymbidiums, the task will not be easy, nor will the final result please everyone. But surely this is what life is about... new directions, new challenges... with Cymbidiums too having the right to new appraisalment, in an ever changing industry and hobby.

As I entered the "snake pit" on the issue of judging, I knew there would be reaction, strangely it has all been positive! Two points of view are published in this issue, *Cymbidium Size Classification (Past, Present and Future)* written by Helmuth Gerber, which looks at the simplistic view of where Cymbidiums have evolved from and why it should be kept simple. While Rob Smith's article, *Cymbidium Judging*, shares views which I agree with, especially the interpretation of how to handle the seedling issue. Whatever the outcome on changes to judging, remember... any system will only be as good as the people using it!

And now to enter the "lion's den"! As we look at yours truly's article *Eye-catching Orchids in Adelaide*, the matter of bogus orchid names rears its head, Graham Guest in reply has explained the reason for Guest Orchids action, and in doing so, under the heading, *Why the Subterfuge?*, has touched on the point of unethical behaviour in the orchid community. For far too long these people have continued on their way unchallenged, along the way they have done untold damage, all in the name of a "quick buck". I invite the many people who have debated this issue with me to make their stand now.

In other reading, we bring you the prestigious *Sage Horticultural Australian Cymbidium Seedling of The Year*. A profile on *Cym. Zumma Boyd*. The explanation of *What is a Decorative Cymbidium?* A look at *Cym. canaliculatum* alba forms, and update you with COSOV Meeting Reports.

Good reading, growing and showing.

Dean Roesler  
Editor

## President's Report

### Annual General Meeting

On the 19th, 20th & 21st of November 1999 the delegates from Victoria, New South Wales, South Australia and Western Australia met in Sydney for the AGM of the Australian Cymbidium Society (ACS). A number of sweeping and far-reaching decisions were made at these meetings. Yes I said meetings, as three separate meetings took place over the weekend, contrary to what some people believe, this is not a holiday break.

Arriving in Sydney at 1.00pm on the Friday afternoon, we were met by Peter Gibson, the NSW delegate, who transported us to the offices of the Australian Orchid Review (AOR). They make available to us their boardroom for this meeting. After a brief delegate's discussion on AOR matters we then met with the executive of the AOR. Ron Hoolahan, the owner of Graphic World attended this meeting along with Advertising Production Manager Barry Badger and Editor David Banks. This meeting proved very beneficial for both parties with a number of improvements and suggestions put forward regarding the magazine. These innovations will be announced at the appropriate times. The meeting with the AOR executive concluded at 4.00pm, with the delegates continuing discussion until 5.45pm when the meeting was adjourned until next morning.

### Meeting at Bryants Orchids

Well not all the weekend was spent on meetings! Greg had offered his lunch shed for us to use for our AGM. Having arrived very early and being Cymbidium fanatics we rummaged through the composts etc. After a few prudent purchases the AGM started at 10.30am. The AGM agenda was followed with all Office Bearers being re-elected. The meeting finished at 12.30pm and we thanked Greg for his hospitality.

### Delegates Meeting

We then moved on to the beautiful home of Peter and Rose Gibson at Minto about one hours drive from Bryants Orchids. At this meeting a plan was formed to take the ACS into the new millennium. These plans include a National Judging Guideline that is now being studied by all states. This guideline will include Award Judging, Show Judging and Display Judging of Cymbidiums. When the guidelines have been accepted by all states a National Judging Handbook will be published and forwarded to them. Further to this, Helen Stretch, the WA delegate was appointed the ACS Awards Registrar. It was agreed that the ACS will recognise all state Awards once the Cymbidium principles of judging are approved. Helen will set up a system to record the Awards and issue a certificate to acknowledge these awards from the ACS.

Sunday morning saw us all at the home of Fred Weir for morning tea. Then it was on to Kevin Black's for lunch and conclude the unfinished business from the previous day, before boarding planes to return to our respective states.

David Allen  
President

# "CYMBIDIUMS - KING OF THE ORCHIDS"



# The 1999 Sage Horticultural Australian Cymbidium of The Year

by Dean Roesler

The Australian Cymbidium Society in association with Sage Horticultural are proud to present the State Nominations, Section Winners and the 1999 Australian Cymbidium Seedling of The Year. Congratulations to Vic Haskard, well known South Australian grower, whose plant *Cym. Blazing Fury 'Edel'* was selected as the winner.

The promotion and development of Cymbidiums is assured, thanks to our hybridists, the many enthusiasts now growing seedlings, the opportunity being given for recognition to such people by the Australian Cymbidium Society, and the wonderful, continuing sponsorship given by Sage Horticultural.

## A profile of Vic Haskard

Vic Haskard first started growing orchids in 1978 when his sister gave him twelve Cymbidium plants, which he kept under a lemon tree. When they flowered for the first time he realised he had caught the dreaded 'orchid disease'.

He was born in 1927 at the popular South Australian coastal resort of Victor Harbor. As a young child, Vic together with his parents, three sisters and brother, moved to the Adelaide suburb of Everard Park, which is close to the Royal Adelaide Showgrounds. Coincidentally, his wife to be, Joyce, together with her family did the exact opposite, moving from Adelaide to Victor Harbor when she was a small child. They married in 1952 and have three daughters and one son, as well as eight grandchildren.

A panel beater by trade, Vic served his apprenticeship at Chrysler Ltd. After becoming a qualified panel beater, he spent the rest of his working years in that profession, returning in later years to once again work at Chrysler Ltd as a leading hand in the experimental division. Vic retired in 1991 and enjoys growing Cymbidiums, Camellias and Roses. Yet another passion is his involvement in lawn bowls. Always a keen sportsman, Vic represented South Australia in mens basketball during the late 1940s.

Vic has become one of South Australia's most successful Cymbidium growers, both on the showbench, winning many Championships and Awards



Vic Haskard

and with his choice of new seedlings. Many of his seedlings have been major winners in past years. Indeed, Vic specialises in seedlings, carefully studying the crosses available, assessing the potential of parents, before making his choice. Vic also makes a number of his own crosses each year.

## Cultural methods

Potting mixture is made using the following proportions: 10 parts of Van Schaik's medium grade pinebark, 2 parts of isolite, and 1 part of 3mm marble chips.

Vic believes orchids like human beings need a mixed and varied diet. Plants are fertilised weekly using either half strength Nitrosol, Top Soluble, Charlie Carp, Phostrogen, or Campbell Orchid Special B. For a mixed diet the plants are fed approximately three times a year with Iron Chelates and Epsom Salts, and occasionally given a top dressing of Rapid Raiser.

Rainwater when available is mixed with mains water, a measure which Vic believes reduces the problems associated with South Australia's poor quality

mains water. When fertilising, only rainwater is used.

## The winner

*Cym. Blazing Fury 'Edel'* was from one of Vic's carefully selected flasks obtained from Bryants Orchids. It comes from the crossing of *Cym. Yowie Flame 'Krakatoa'* x *Lancashire Rose 'Maureen'* 4n – two outstanding stud plants which have both produced excellent results in their own right and when combined. 'Edel' is a rich even coloured dark red Standard Cymbidium with an even darker red banded labellum with this same colour extending down the side-lobes. A nice white area below the keels together with white pollen cap add highlight to the labellum.

## Thank you Sage

The Australian Cymbidium Society wishes to thank Bob Campbell, the Managing Director of Sage Horticultural for past sponsorship and we look forward to his continuing support of this prestigious award.

Dean Roesler  
Lot 14 Lawson Road  
Kalbeeba, S.A. 5118



# Best Standard Cymbidium

*Cym. Blazing Fury 'Edel'*

South Australian Nomination



*Cym. Blazing Fury 'Edel'* – Owner: Vic Haskard – Hybridiser: Bryants Orchids – Parentage: *Cym. Yowie Flame* x *Lancashire Rose*

## New South Wales Nomination

Standard Cymbidium

*Cym. Khan Flame 'Cherrychoc'*



*Cym. Khan Flame 'Cherrychoc'* – Owner: R & E Meiran – Hybridiser: Bryants Orchids – Parentage: *Cym. Cronulla* x *Yowie Flame*

## Western Australian Nomination

Standard Cymbidium

*Cym. Coraki Gold*



*Cym. Coraki Gold* – Owner: Claude Surman – Hybridiser: Bryants Orchids – Parentage: *Cym. Winter Hunt* x *Coraki*

## Victorian Nomination

Standard Cymbidium

*Cym. (Valley Splash x Lunara) 'Yellow Haze'*



*Cym. (Valley Splash x Lunara) 'Yellow Haze'* – Owner / hybridiser: Kimberley Orchids



# Best Intermediate Cymbidium

*Cym. Uncle Everett*

Western Australian Nomination



*Cym. Uncle Everett* – Owner: Ezi-Gro Orchids – Hybridiser: Geyserland Orchids – Parentage: *Cym. Last Tango* x *Lady Spring*

Victorian Nomination

Intermediate Cymbidium

*Cym. Doo-Wop*



*Cym. Doo-Wop* – Owner: A & J Leamon – Hybridiser: Geyserland Orchids – Parentage: *Flame Hawk* x *Vogelsang*

South Australian Nomination

Intermediate Cymbidium

*Cym. (Valley Regent x Ruby Eyes)*  
*'Steven John'*



*Cym. (Valley Regent x Ruby Eyes) 'Steven John'* – Owner: A, C & P Canala – Hybridiser: Deane Mills

New South Wales Nomination

Intermediate Cymbidium

*Cym. Sleeping Ransom x Dolly*



*Cym. Sleeping Ransom x Dolly* – Owner: Foxfire Orchids – Hybridiser: Rob Pollock



# Best Miniature Cymbidium

*Cym. Tuffet*

Victorian Nomination



*Cym. Tuffet* – Owner: Atlantis Orchids – Hybridiser: Geyserland Orchids – Parentage: *Cym. Brook Street* x *Miss Muffet*

New South Wales Nomination

Miniature Cymbidium

*Cym. Sue* x *Katydid*



*Cym. Sue* x *Katydid* – Owner: W & M Jablonski – Hybridiser: Helen Palmer

Western Australian Nomination

Miniature Cymbidium

*Cym. Parish Dragon* x *Magic Elf*



*Cym. Parish Dragon* x *White Elf* – Owner: C & B Smith – Hybridiser: Ezi-Gro Orchids

South Australian Nomination

Miniature Cymbidium

*Cym. Richard Tauber 'Christine'*



*Cym. Richard Tauber 'Christine'* – Owner: A, C & P Canala – Hybridiser: Geyserland Orchids – Parentage: *Cym. Radiant Harry* x *Vogelsang*



## Best Novelty Cymbidium

*Cym.* (Valley Bay x Cleo's Melody) 'Wild Child'

Western Australian Nomination



*Cym.* (Valley Bay x Cleo's Melody) 'Wild Child' – Owner/hybridiser: Ezi-Gro Orchids

### Victorian Nomination

Novelty Cymbidium

*Cym.* So Bold x Twenty First Century



*Cym.* So Bold x Twenty First Century – Owner/hybridiser: Atlantis Orchids

### South Australian Nomination

Novelty Cymbidium

*Cym.* Devon Odyssey



*Cym.* Devon Odyssey – Owner: N & J Ford – Hybridiser: Geyserland Orchids – Parentage: *Cym. erythrostylum* x *devonianum*



# Cymbidium Judging

by Rob Smith

**D**ean Roesler has long been committed to the promotion of the genus Cymbidium and I'm sure his desire to instigate discussion on judging is based on a fervent wish to see a broadening of current parameters. I'm sure we all have our ideas on what may constitute improvements in the current systems used around the country, some of which may be practical or workable and others that may not. I'm not a judge and, as Dean requested, I'm not about to defend judges, but just like many other orchid growers, I wouldn't want their thankless job in a fit! So... time to join Mr Roesler in the snake pit...

Personally, I'm all for broadening the coverage in a show schedule to make all groups as happy as possible, rather than the idea of constantly shifting the guidelines around to cater to the current ideas of a few or the whimsy of a fashion trend. Perhaps classes to recognise commercial cut flower, pot plant and developmental types would stimulate commercial involvement, while more available prize money given for displays would perhaps ensure plenty of hobby grower involvement, many of whom receive little other return for all their effort and expense in staging their display and travelling to shows etc.

The best we can hope for, and ask for, from a judging system is that it provides the greatest opportunity for recognition of quality from the most simple and understandable system possible. It should be flexible yet stable which, unfortunately at times, may mean it's slow to change, but then it has to cater to so many diverse needs and views, doesn't it?

Perhaps the area of Cymbidium development with the greatest potential to shape the future of the genus and its popularity among orchid growers is in relation to the development and promotion of new hybrids via the promotion of seedlings. Could this be an area where more recognition and encouragement could be given through increased emphasis in our show schedules? Possibly schedules could be expanded by not only having seedling classes in each size (standard, intermediate and miniature), but also having showbench, pot plant and cut flower... or, showbench and commercial in the three size classes? The commercial aspect referring to plant and flower type and possible end use, rather than to a class for commercial exhibitors! In many hybrids there are percentages of seedlings which cross over or bridge particular classes and hobby or showbench growers flower seedlings with pot plant or cut flower potential and vice versa.

The sheer numbers of new hybrids being produced and the number of seedlings being exhibited at shows, particularly at our larger Cymbidium shows, surely warrants an

expansion of the seedling class. Perhaps such an expansion would provide increased incentive to commercial growers to maintain their participation in shows, as for many of them the sale of seedling stock provides the bulk of their operations these days. It is perhaps the ideal way of providing recognition for what could also be described as the more "developmental" hybrids without the possible divisive move to separate commercial exhibitor classes within a show schedule.

I would expect that an obvious criticism of such a move would be in relation to the judging of such classes, but, surely, it would be no more of a challenge to judges than the current cut flower or pot plant classes which are not seedling-specific. It is not hard to define the attributes to be preferred in pot plant or cut flower types. We have plenty of competent judges with either a commercial Cymbidium background or an understanding of commercial needs in relation to plant and flower properties and I'm sure the vast majority of judges are more than capable of rising to the challenge, if given the chance.

The topic of how to define a seedling may

well raise its head in any discussion on seedling classes, whether the definition of a seedling be first-flowered or first-shown. Perhaps it doesn't really matter, with the category simply being described as seedling. I'm sure our judging panels are capable of weighing up the relative potential and merits of a three-bulb plant on its first flowering where future flowering's may see an increase in flower size and count... versus an eight-bulb plant shown for the first time with several spikes of flowers and which is probably exhibiting its maximum potential, on the assumption that its owner has held the plant back from public exhibition until it has reached such a stage of development.

Perhaps the only proviso needed for seedlings is that they be whole and undivided as has been the case in the past and I'm assuming that such a definition would exclude the pruning of flower spikes.

Through articles in orchid magazines, guest speaker talks and in conversations we regularly hear the phrase, "Seedlings are the future of Cymbidiums", a sentiment beyond dispute. Having accepted that premise, how can we NOT do everything possible to promote the growing, showing and hybridising of our favourite genera and its future? ■

Rob Smith

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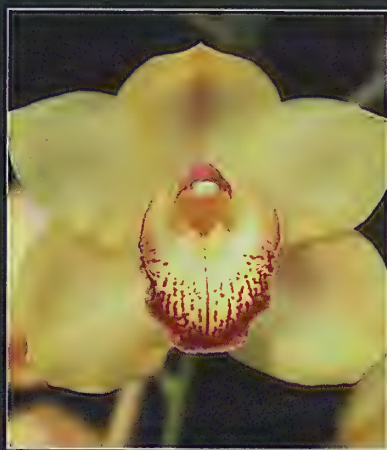
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# Eye-catching Orchids in Adelaide

Text by Dean Roesler - Photography by Graham Guest

After waiting for three years, it was with great anticipation that I looked forward to seeing the 4th National Cymbidium Orchid Show come to my home-state. Having witnessed the past efforts of my fellow South Australian colleagues in our sojourn to West Lakes each

year for a Spring Show, I expected a top effort for such an important occasion. To be quite frank and honest, I was disappointed!

From the public's perspective I am sure this event was hailed as a great spectacle, 32 individual displays, with participation from each of Australia's major Cymbidium

growing states assured its success. Nobody could question the efforts of a hard working core of members who rallied around President Ray Brady. Nevertheless, from the view of an enthusiast looking to see new and interesting additions to the orchid world, I came away feeling let down. Where were all the new seedlings we pride ourselves upon in this state, and the brilliant imaginative displays we have come to expect? Apart from the Champion Seedlings, which received recognition in the Oct/Nov issue of AOR I found only enough eye-catching orchids for one issue of this feature, which in the past has always managed to fill two or three segments.

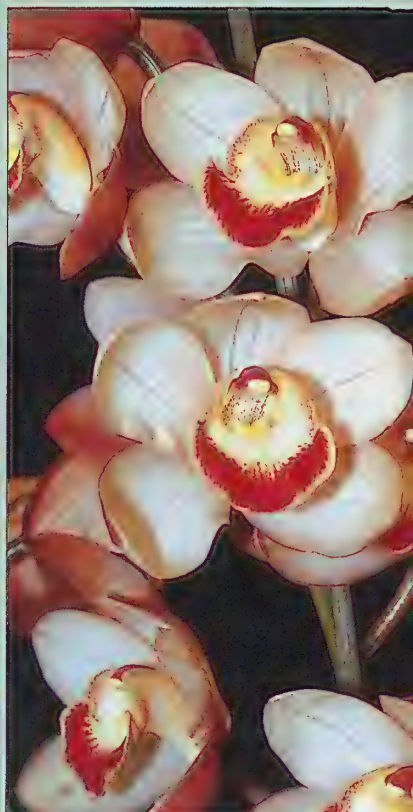
Furthermore, in what some may see as a biased selection, all of my eye-catching orchids have come from one owner, Guest



Cym. Lake Villa



Cym. Tango Tango



Cym. Unforgettable 'Experience'



Orchids, and to add more controversy, I can't even tell you the obvious parents of these plants, although I shall try guessing what they might be! Why not have a little fun too, and debate with your friends what you think the parents might be!

How pleased I was to persuade Guest Orchids to display their plants in a combined effort with Mary and I, when initially they intended not to. Having seen the many new seedlings Graham and Sue flower at their nursery, and given that Graham and I have been close "orchid friends" and that he has been so instrumental in the formation of the Australian Cymbidium Society, I felt it would be an injustice to Cymbidium enthusiasts coming to South Australia to be deprived of seeing some of them.

These were my eye-catching orchids at the 4th National Cymbidium Orchid Show, held in the West Lakes Mall from the 23rd to the 28th of August 1999.

*Cym. Lake Villa* – this stunning pink standard, with its bright lipstick red banded labellum caught the public's eye but not the judges – not even a third place in its class... must have been some outstanding pinks in the Show is all I can say! What were its parents? *Cym. Red Beauty* 'Netty' 4n must surely have been one.



*Cym. Roger Roger*

*Cym. Unforgettable* 'Experience' (Margaret Thatcher x Red Beauty). A combination between a yellow standard and a dark pink standard produced this delightful pastel orange (pale apricot) coloured standard with a simply irresistible bright red

banded labellum... very close to the perfect lip for shape, size and overall colour contrast.

*Cym. Catamarca* – an intense, non-staining, yellow standard, with burgundy banded labellum. Surely it must have been



*Cym. Catamarca*



*Cym. Queen Amadala* 'No.1'





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'THE GIANT')

T325 Cym. WHITE VALLEY 'BECKY' X VALLEY WAND

T324 Cym. CHOCARUNTA = (CHOC X ARUNTA) -

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T338 Cym. MARY ANN 'SIMPLICITY' X CHOCOLADA 'THE GIANT'

T337 Cym. (HAMSEY X LOIS KELLY) X CHOCOLADA 'THE GIANT'

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from *Cym.* Coraki lineage, probably from *Cym.* Tracey Reddaway! But what might the other parent have been? I'd throw in a dark-horse like... *Cym.* Mighty Mouse 'Minnie', because 'Minnie' tends to produce the narrower lip banding as displayed by *Cym.* Catamarca, together with smaller flower type.

*Cym.* Tingo Tango – a showy orange flowered standard, with white labellum and bright red band. Just the type of bright coloured Cymbidium the public enjoy and the hybridists should be striving for. Some of the *Cym.* Persian Bronzes were similar, so *Cym.* Tingo Tango could have *Cym.* Mighty Mouse, *Cym.* Tracey Reddaway or *Cym.* Red Beauty in its parentage!

*Cym.* Queen Amadala 'No.1' – a huge powderpuff pink standard, with a softer, broken banded labellum which complimented the flower. A slight pinching on the distal end of a couple flowers being the only minor fault on an orchid which must surely rate highly in every other aspect. Certainly another 'Netty' 4n seedling and not unlike the *Cym.* John Wooden cross which was *Cym.* Red Beauty x Solana Beach.

*Cym.* Icebreaker 'No.1' – a brilliant, white, pure colour miniature. I considered this the best new Cymbidium in the Show. The perfect pot plant... four spikes trained upright holding in excess of 25 flowers each, together with a nicely balanced plant (spikes reaching out of the longest leaves). This plant showed all the good attributes of the *Cym.* Sarah Jean, *Cym.* Dolly types... maybe one of these was a parent, or maybe both!

*Cym.* Roger Roger – a lovely, bright yellow standard, with the classical red banded labellum on a white background. *Cym.*



*Cym.* Eight Carat

Coraki parentage was stamped all over this flower, or could it have been a *Cym.* Lunara, or *Cym.* Tracey Reddaway seedling. Could it have been a *Cym.* Albert Brown (Coraki x Wallara)? The mind boggles at the thought of so many possibilities... ask Graham, and then tell me!

*Cym.* Naboo 'Who' – like the name implies, "who" are the parents of this very dark red intermediate? The "cuppy" flowers and forward protruding petals would probably have put the judges' in a quandary, nevertheless, place the same orchid on the sales bench as see if it stays there long? Its white labellum with dark broken band make a number of plants candidates as parents, including... *Cym.* Beacon Fire, *Cym.* Ruby Eyes, *Cym.*

Doctor Baker, or perhaps *Cym.* Last Tango!

*Cym.* Eight Carat – yet another showy Cymbidium displaying a combination of colours, which can best be described as brick/red, brown/orange (or however you see it). It features a very bold tiger patterned labellum, highlighted by deep gold. I ponder its parents and image it being a *Cym.* Claude Pepper seedling... or maybe it came from *Cym.* Valley Furnace breeding... something tells me it could be from the coloured *Cym.* Sleeping Dream 'Castle' 4n line of breeding... ah well, what the heck, let's enjoy it for its beauty and let's not get too concerned about its name!

Dean Roesler

Lot 14 Lawson Road  
Kalbeeba, S.A. 5118



*Cym.* Icebreaker 'No.1'



*Cym.* Naboo 'Who'



# Why the Subterfuge?

by Graham Guest

When Sue and I wrote our first book, *CYMBIDIUMS, YOUR GUIDE TO A REWARDING PASTIME*, we thought one of the major contributions we were making to the Australian orchid scene was to include an entire chapter on ETHICS. We were concerned at the start of the 1990s that a number of Cymbidium Nurseries, particularly in South Australia, were "doing the wrong thing". Even more disturbing was the fact that the proprietors of these Nurseries also occupied prominent positions on Orchid Committees and Judging Panels – the danger was that they could "normalise" such practices as:

- (1) selling virused plants to the public
- (2) cloning unflowered mericlones
- (3) raiding tissue from flasks

These unethical practices are discussed in detail in our 1992 publication and are revisited in our new publication, *I'VE GOT SPIKES*. Unfortunately it would appear that our call for growers to "do the right thing" has fallen on deaf ears. The reality is that these practices have been "normalised" – a tragedy indeed, because

Australia has developed a low standing in the international sphere as possessing growers with the absence of integrity.

At Guest Orchids we become annoyed when we see "bold as brass" on the Internet mericlones being offered for sale that originated from our Nursery – without the courtesy of discussing whether our approval is given for such action. We are also annoyed that peak Orchid Societies have not heeded our 1992 advice that a *CODE OF ETHICAL PRACTICE* be developed and promulgated to the orchid community. A Code by itself will not stamp out rogue behaviour, but it is a start, and more importantly, sends a clear message to all as to what is expected.

Guest Orchids could see that the Australian Cymbidium Society did not even have the topic on its 'B' list, let alone its agenda. We decided that the best way to bring this issue to a head would be to make a statement at the 1999 National Cymbidium Orchid Show, with the use of bogus names. Interestingly enough, the Registrar of Judges did not even approach

me and ask whether the names on our plants were in the process of being registered with the Royal Horticultural Society – he assumed they were bogus. Of even greater interest was that the Registrar, hearing that the world's foremost authority on Cymbidiums, Andy Easton, was present, did not extend him an invitation to join the Judging Panel.

Predictably the Judges snubbed Guest Orchids entries (even though they were the best new orchids on display), which served only to further highlight our stance.

I set this challenge for the Australian Cymbidium Society. Develop and promulgate a *CODE OF PRACTICE* for the new century. In particular, I call upon the Australian Cymbidium Society President to show some leadership on this issue, and make it his major achievement during his term in office.

The bottom line from our point of view was that we had considerable fun in creating some unique Cymbidium names. Should you wish to know their parentage, they are listed in our new book, *I'VE GOT SPIKES*.

Graham Guest  
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# Profiling – *Cym. Zumma Boyd*

by Bill Johnson

Before we delve into the mysteries of *Cym. Zumma Boyd*, the number of inquiries that I have received suggests the need to reiterate the statement appearing in the first of these profiles, namely, that it was intended that they would appear if, and when, space was available.

In order to profile *Cym. Zumma Boyd* we really need to discuss several of them, since various breeders have used different varieties over the years.

The grex *Cym. Zumma Boyd* was created from the cross of *Cym. San Miguel* x *Sussex Dawn*. The original version was diploid (2n). One version, possibly the original, may have been colchicine treated, because colchicine treated (CT) seedlings flowered by the mid 1970s can be traced back to Dr. Bob Vandyke who is known to have performed this treatment on seedlings.

The tetraploid variety *Cym. Zumma Boyd* 'John's Pride' B/CSA came from a flask presented to John Hannah from New Zealand by Dr. Vandyke, but the others such as 'Tetrahigh' etc. were located and used in Australia.

The cross of *Cym. Zumma Boyd* was made more than once so quite likely there are many more varieties around.

I bought a 2n remake in 1978 that was made from *Cym. Sussex Dawn* 'Dorothy May' x *San Miguel* 'Kirrawee' and this version produced several albinos. Since neither parent was an albino, theoretically, both parents carried the albino gene.

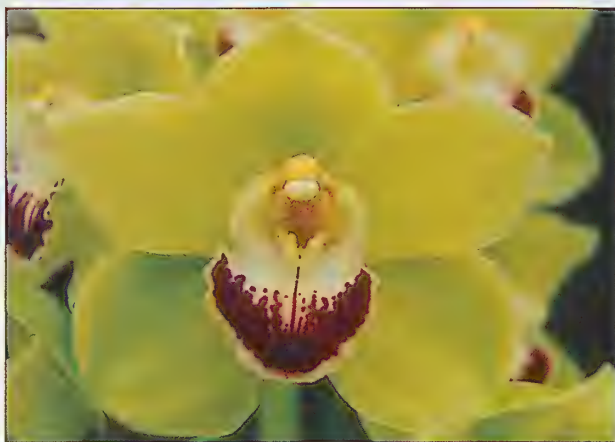
The cross of *Cym. Zumma Spring* (= *Zumma Boyd* x *Sleeping Spring*) produced albinos. If the *Cym. Zumma Spring* grex was made using *Cym. Sleeping Spring* 'Perfection', then according to current theories *Cym. Zumma Boyd* 'Tetrahigh' must also carry the albino factor.

*Cym. San Miguel* is not noted for producing award shape in its progeny, which suggests the gene for that came from *Cym. Sussex Dawn*.

The most well known of the tetraploid *Cym. Zumma Boyds* are the clones 'Tetrahigh' 4n, 'Yowie Bay' 4n and 'John's Pride' 4n and I have flowered seedlings from all three.

I have used 'John's Pride' 4n with some success but Valley Orchids, using 'Tetrahigh' 4n, produced the excellent *Cym. Valley Zenith* grex.

*Cym. Valley Zenith* 'Green Orb' was granted an Award of Merit/OSCOV and two of its progeny also have received Awards of Merit: namely, *Cym. Ovens Valley* 'Miranda Joy' AM/OSCOV and



*Cym. Green Sensation* 'Perfection' AM/AOC



*Cym. Zumma Boyd* 'Tetrahigh'

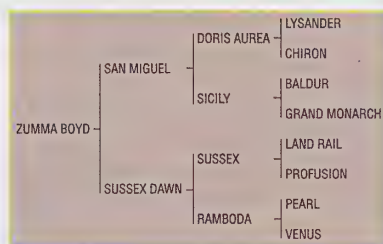
*Cym. Green Sensation* 'Perfection' AM/AOC (awarded in September 1998).

The *Cym. Zumma Boyds* are a mixed bunch genetically. For flower quality, I doubt that they should be rated highly in modern hybridising, but it is obvious that when used with the correct clone a good result is possible.

However, isn't that the case with every cross?

Some of their progeny are well worth considering for further breeding. The *Cym. Valley Zeniths* have confirmed this. However, even with the *Cym. Valley Zeniths*, one must be careful in selecting a suitable co-parent otherwise a high percentage of rubbish is likely.

Some of the *Cym. Zumma Boyds* used by some breeders have produced a terrible raceme habit, and one also produces badly bunched flowers, some have very low



Genetic chart for *Cym. 'Zumma Boyd'*

flower count, one (at least) will not tolerate even moderately cold weather conditions.

These faults suggest that care must be taken when selecting a parent to be used with any *Cym. Zumma Boyd*.

Lip colour will disappear even if the other parent has red lip colouring. *Cym. Valley Zenith* 'Green Orb' is a good example - its red lip is recessive. Although *Cym. Zumma Boyd* 'John's Pride' has a superb





*Cym. Chocolada 'Mocha'*

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banded lip, that is not evident in too many of its progeny so far. So, any *Cym. Zumma Boyd* lip colour should be regarded as recessive and treated accordingly.

This lip trait came through in my *Cym. Ovens Valley* cross that is three generations removed from *Cym. Sussex Dawn*!

A clone, which I named 'Glacier', was a clear green flower with a pure white lip and siblings have a yellow column and label-lums devoid of red.

The spike problems appeared in a version of *Cym. Zumma Boyd* x *Zumma Boyd*. This also happened in the *Cym. Valerie Brown* grex, in spite of its other parent, *Cym. Fanfare 'St. Francis'*, having the raceme to correct this problem. Too many large flowers require a longer flower stem and a very strong raceme to support them.

This trait has appeared in many other *Cym. Zumma Boyd* progeny - the raceme may be loaded with flowers but the sheer weight of those flowers causes the raceme to arch. The source of that can be traced back to *Cym. Sussex Dawn* and, no doubt, to *Cym. hookerianum* (Syn. *Cym. grandiflorum*).

What then are the benefits from the *Cym. Zumma Boyds*?

The obvious ones are clear colour and good flower shape, but they are dependent on a matching genotype in any other parent. Lip form is likely to be good, but lip form will often be pure white - a *Cym. Sussex Dawn* trait that has its benefits.

Seedlings from my cross of *Cym. Green Glass* x *Foxfire Angel* that first flowered in 1998, produced a very thick, perfectly erect spike of thirteen flowers that needed no support. I used *Cym. Zumma Boyd 'John's Pride'* to produce my version of the *Cym. Foxfire Angel* grex.

*Cym. Zumma Boyd 'John's Pride'* is not noted for high flower count, whereas the *Cym. Green Glass* grex carries *Cym. Fanfare 'St. Francis'* genes for twenty plus flowers.

The predominant colour range likely to be produced from the *Cym. Zumma Boyds* is green, yellow/green, yellow and albino, but there is no reason why other colours could not be used.

For instance, *Cym. San Miguel* (one of *Cym. Zumma Boyd*'s parents) carries the genes for deep red from *Cym. Doris Aurea*. (See also "*Cym. Lunagrad 'Elanora' Profile*" Aug. 1999 for this trait).

Since albinos have appeared from the *Cym. Zumma Boyd* grex, as well as from their progeny, it is likely that the *Cym. Valley Zeniths* and other *Cym. Zumma Boyd* progeny may also carry the albino factor.

If albinos are the aim, it is certainly worth trying a cross or two with other clones created using *Cym. Zumma Boyd 'Tetrahigh'* with an albino parent - for example *Cym. Zumma Spring*.

First generation progeny from *Cym.*





*Cym. Zion Valley 'Exquisite'*

Zumma Boyd include:-

*Cym. Valley Zenith* (x *Miretta*)

*Cym. Foxfire Angel* (x *Valley Angel*)

*Cym. Zumma Spring* (x *Sleeping Spring*)

*Cym. Valerie Brown* (x *Fanfare*)

*Cym. Pure Luck* (x *Ian Duncan*)

*Cym. Chocolada* (x *Hamsey*)

*Cym. Zion Valley* (x *Zumma Spring*)

Second generation progeny include:-

*Cym. Ovens Valley 'Miranda Joy'*

AM/OSCOV

Third generation progeny include:-

*Cym. Green Sensation 'Perfection'*

AM/AOC

The list of crosses registered with *Cym. Zumma Boyd* as a parent is not long in spite of many crossings being made with them in the past. That is a good indication that the results didn't match expectations. However, *Cym. Zumma Boyd 'Tetrahigh'* at least can claim some brilliant successes, however, one should be careful with what is used with it - the petals of its progeny can reflex badly.

Numerous third generation seedlings from *Cym. Zumma Boyd* are on the way, mainly via *Cym. Chocolada*, *Cym. Foxfire Angel* and *Cym. Ovens Valley*.

Just as *Cym. Cronulla 'The Khan'* has been exploited for its red genetics maybe there is something similar lurking in the *Cym. Zumma Boyds*.

#### Acknowledgments:

This Profile: John Hannah (NZ), 1999, for historical data on *Cym. Zumma Boyd 'John's Pride'*. Valley Orchids for use of photographs.

The *Cym. Lunagrad 'Elanora' 4n* Profile: Valley Orchids for use of photographs. ■

Bill Johnson

1265 Western Port Highway  
Langwarrin, Victoria 3910

## What is a Decorative Cymbidium?

by Murray Weston

**T**here is confusion with the terms decorative, arching or pendulous, amongst orchid growers.

#### Pendulous

Starting with pendulous, a term which includes cascade, which all growers can understand, is a plant that presents its flower spikes in the fashion of a waterfall, a cascade straight over the side of the container and falling straight down - *Cym. Cricket*, *Cym. Miss Muffett* and *Cym. Sarah Jean 'Ice Cascade'* are a few examples.

#### Arching

An orchid which presents its spikes at an angle but not upright or vertical, where the first flowers on the spike are on a straight part of the stem and the remainder are carried presented in an arch or arching. Examples are; *Cym. Jubilation 'Geronimo'*, *Cym. White Valley 'Becky'* and *Cym. Pendragon 'Broadmoor'*.

#### Decorative

We rarely see PENDULOUS or ARCHING in show schedules but we often find DECORATIVE in all size classes. So the basis of this article is to define DECORATIVE not only for grower-exhibitors, but for orchid judges as well.

A raceme or spike to be classed as decorative must be presented in the following way:- the Peduncle or length of stem before the first flower can be at an angle or upright but must be curved so that all flowers on the Rachis or flowering part are displayed over the hump and more or less cascade from the hump. Examples are:- *Cym. Arcadian Sunrise 'Golden Fleece'*, *Cym. Solana Fascination 'Amethyst Glow'*, *Cym. Valerie Brown 'Pollyanna'* or 'Anne'. ■

Murray Weston

37 Payton Avenue

Dernancourt, SA 5075

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# *Cym. canaliculatum* alba forms... their history and cultivation in Adelaide

by Kevin Western

Some time ago in the early to mid 1980s an albanistic form of *Cym. canaliculatum* was discovered in the bush. Whether this was a "one off", or part of a small colony I did not know until recent communication with a Queensland hobbyist revealed that isolated alba forms of both 'Sparkesii' types and standard forms are known to exist in the wild.

The originally discovered plant was on

display at the Orchids '86 Conference. It was somewhat "tatty" but sported two racemes of about fifty flowers each. The quite spectacular flowers were large and shapely, for the species, and did not have a trace of red pigmentation in them.

According to local grower Roger Herremann, its owner self-pollinated the plant and flaked the seedlings. It is thought that in 1987 or '88 two to three

inch high seedlings were sold from the crossing. Roger purchased a half dozen plants at the time and ultimately two plants survived to flower for him.

Roger transferred the single-growth seedlings into a pinebark and gravel mix and then just "potted-on", never dividing the plants or disturbing the root mass. The two plants have now been in the same 6" pots for about five years. They grow hanging under the cover of an ageing, clear Alsynite roof. They receive absolutely no water from Easter time until the end of September, by which time they really look dehydrated. He then commences light watering without fertiliser and they fatten and begin to look very healthy again. Regular, weak, soluble fertilising is then commenced until the following Easter.

This routine has worked for Roger in the Adelaide, South Australia area, with our typical cold, wet winters and hot, dry summers, and should work also for other *Cym. canaliculatum* varieties.

The first plant flowered in 1997 and both plants flowered in 1999. The first opened in November, the second one month later.

Kevin Western

PO Box 276

Blackwood, SA 5051



*Cym. canaliculatum* alba form

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## Editorial Corrections:

I wish to apologise to Peter Rochfort for any embarrassment caused by the wrong publication of a picture in his article Aug/Sep 1999 page 50 titled *Wet Weather, Spotted Flowers - Not Necessarily!*. The picture shown does not have botrytis spotting, instead it shows damage caused by thrips.

Dec.1999/Jan.2000 issue:

### Page 57 Correction:

*Cym. Sleeping Sharon 'Nicole'.*

### Page 53 Correction:

*Cym. Gentle Touch 'Bon Bon'*

### Page 53 Correction:

exhibited by Peter Churchus

### Page 54 Correction:

Winifred 'Grace'

Dean Roesler



# Cymbidium Orchid Society of Victoria

## November and December Meeting Reports

Text by Carolin Allen - Photography by Sean Moore and Ken West

### November Meeting

Once again the attendance of members was outstanding, even though this was the Annual General Meeting. Office Bearers for the Cymbidium Orchid Society of Victoria are as follows:-

President	Andy Leamon
Senior Vice President	Ken West
Junior Vice President	Glenda Coutts
Secretary	Kevin Brown
Assistant Secretary	Dennis Scheele
Treasurer	Henk Morren
Assistant Treasurer	John Hedger
Editor	David Allen
Assistant Editor	Noe Smith
COSV Registrar	Ern Kettle
Promotions/Speakers	Terry Poulton
Publicity	Rob Smith
Catering	Jan Leamon
Show Manager	Peter Sunderland
Promotions/Sales	Peter Churchus

We welcome Rob and Noe Smith to the committee. Rob and Noe have recently moved from Whyalla in South Australia to Rosebud on the Mornington Peninsula. They should notice a big change in their plants as the Mornington Peninsula is an excellent Cymbidium growing area.

The meeting started with a panel discussion on General Cymbidium Culture for this time of the year. As usual with panel discussions member involvement is



*Cym. Sunburst Finish 'Houston Street'* exhibited by John and Sue Day



*Cym. Terama 'Peloric'* exhibited by Francis and Julian Coker





*Cym. Cricket* 'Daddy Long Legs' exhibited by David and Carolin Allen



*Cym. lowianum* var. *l'ansonii* exhibited by Francis and Julian Coker

encouraged... with lots of ideas and techniques being put forward and bounced around the hall.

There was still a good benching of the late flowering Cymbidiums, with quite a few *Cym. devonianum* hybrids shown. The judges also recognised this fact by creating a class for them.

The winners for the night were:-

Best in the Open Division and Judges' Choice was *Cym. Cricket* 'Daddy Long Legs' exhibited by David and Carolin Allen. Best in the Intermediate Division was *Cym. Cricket* exhibited by L Porter. Best in the Novice Division was *Cym. devonianum* exhibited by Bruce Rowe. Best Species for the night was *Cym. insigne* 'Pink Form' exhibited by David and Carolin Allen. Best Seedling was *Cym. Atlantic Crossing* x Karen exhibited by Francis and Julian Coker.

Two COSV Certificates of Excellence for Outstanding Culture were awarded to:-

1. *Cym. Cricket* 'Daddy Long Legs' owned by David and Carolin Allen.
2. *Cym. Sunburst Finish* 'Houston Street' owned by John and Sue Day.

#### December Meeting

This was our Christmas break-up with no judging of plants or any formal meeting. It gives us the opportunity to get together to chat and have fun. Our new meeting venue has lovely lawns and gardens around the hall, and with day light saving, a barbecue was in order. The club provided the eats and each member who attended received a Christmas Present, a Cymbidium seedling provided by Joyce and Peter Sunderland of Kimberley Orchids. A big thank you goes to Peter and Joyce for their generous donation. December also sees the end of the flowering competition for 1999. The winners were:-

Atlantis Orchids first and Kimberley Orchids second in the Open Section. Our own horse manure man, Imre Takacs, won the Intermediate Section. He has a horse stamped onto the side of his pots, indicating that he uses quite a different potting medium. Roy and Marlene Williams came second in this section. Bruce Rowe won the Novice Section, with Daryl and Christine Jones coming second. Trophies were handed out to the winners and we saw the end to another year, with all present looking forward to the year 2000.

I wish all Cymbidium enthusiasts a Happy New Year.

Carolin Allen  
18 Wootten Crescent  
Langwarrin, Victoria 3910



# Cymbidium Size Classification (Past, Present and Future)

by Helmuth Gerber

If someone had asked Neanderthal Man about the size of Cymbidiums, he probably would have said, "Large, small and some in-between."

It's funny, but I've never heard of intermediate species! They were either large (standard) or miniature. By using the present dimensions to classify Intermediate Cymbidiums 55-90mm across, there are eleven species that fall within this intermediate size group including two borderline cases:

<i>Cym. finleysonianum</i>	40 - 57mm
<i>Cym. roseum</i>	50 - 60mm
<i>Cym. erythrostylum</i>	60mm
<i>Cym. faberi</i>	60mm
<i>Cym. mastersii</i>	60mm
<i>Cym. kanran</i>	50 - 70mm
<i>Cym. erythraeum</i>	80mm
<i>Cym. sanderae</i>	80mm
<i>Cym. parishii</i>	(treated same as <i>sanderae</i> )
<i>Cym. schroederii</i>	80 - 90mm
<i>Cym. insigne</i>	90mm

All up there are only six Cymbidium species over 90mm but twenty seven species under 55mm.

Very few crosses with small flowering species were made in the first half of 1900s and most hybrids were sterile. All this changed with the successful usage of *Cym. floribundum* (better known as *Cym. pumilum*) and its second generation hybrids, in particular with the introduction of the following, just to name a few:

1995 *Cym. Sweetheart* = *pumilum* x *Alexanderi* (Bowers)

1960 *Cym. Mary Pinchess* = *pumilum* x *Pajaro* (Pinchess)

1961 *Cym. Mimi* = *pumilum* x *Doris Aurea* (Baker)

1962 *Cym. Showgirl* = *Sweetheart* x *Alexanderi* (Baker)

1963 *Cym. King Arthur* = *Sweetheart* x *Nila* (Paul Miller)

1963 *Cym. Geraint* = *pumilum* x *Jungle* (Paul Miller)

With new breedable miniatures as well as the successful introduction of colchicine to convert sterile diploids into fertile tetraploids by the late Dr Donald Wimber, it not only opened up a huge gene pool of breedable miniatures and intermediates, it created a tidal wave of new crosses right up to this present day.

The term "Miniature" for horticultural hybrids was actually coined by the late Mrs Emma Menninger and the original term for in-between miniature and standard sizes

was "Polymin". By the time this writer joined the orchid fraternity in 1980 they were called "Novelties". The term "Intermediate" was introduced in the mid 1980s. It specified the class as follows: over 55mm and up to 90mm between the petals and must have a miniature species in the background. Even this writer, whilst still a novice grower, could see the trouble on the horizon. For instance: the allrounder judges needed a good comprehension of all Cymbidium hybrids to allow them to make a quick decision during judging!

There were quite a few Standards around which were actually smaller than 90mm i.e. *Cym. Kurun*, *Cym. Negrito* etc. and therefore it was possible to have larger Intermediates than Standards.

One of the most troublesome plants was *Cym. Pendragon* 'Broadmoor'. A well grown plant was an Intermediate but a poorly grown plant was a Miniature. To make matters worse, the Miniature version usually won a first prize whilst the Intermediate version was lucky to get a second or third prize.

Why you may ask? Well, in those days *Cym. Pendragon* 'Broadmoor' was judged "Any Other Colour" instead of today's "Predominantly White" and due to strong opposition from other better shaped flowers within the Intermediate group, usually missed out on a first prize. The poorly grown Miniature version on the other hand had very little opposition and usually won a first prize. In other words, a well grown plant was penalised.

On the other end of the scale we have the Standards. If there was only one flower larger than 90mm, the plant was placed within this group.

This reminds me of a little story involving this writer, furious about the judging rule. Just prior to a Winter Show I was hard pressed to have a plant of *Cym. Valley Song* 'Maureen' (normally a White Standard) open for the show. When I benched the plant the flowers had not flattened out. This was the year the ruling came in, so I asked a judge where to place the plant on the bench. Unsure of the size, the judge took off to get a ruler. In the meantime I gave the petals of the lowest flower a push with middle and index fingers and lo and behold they got stuck. The measurement was over 90mm, the plant classified as a Standard and when I came back next day most flowers had flattened out and were over 90mm and needless to

say, it won a first prize.

In case someone wishes to criticise my actions, let me say, this, "There were no white Intermediates in the show and therefore I still would have won with the plant, albeit in another class. I make no apologies, because *Cym. Valley Song* 'Maureen' was a Standard and the judges should have the expertise to make the distinction between a fully open flower and one just opening, in particular when it concerns a well known plant."

In the early 1990s, the rule was changed to the "majority" of flowers on a spike, but still within 55mm and 90mm. The last straw was the introduction of the latest rule at the beginning of 1999 - still maintaining the 50-90mm size but shifting the measurement from between the petals to the largest horizontal dimension; also ignoring any possible miniature species in the background.

In my humble opinion, this rule is the worst ever concocted by a judging panel. Considering that Cymbidium hybrids are getting bigger and bigger, lowering the size of Intermediates is definitely a step in the wrong direction. As the majority of flowers are usually wider between the lower sepals, most of the "Old Miniatures" are now catapulted into the Intermediate section and because shape, size and substance are dominant factors, most of them will finish up in "no man's land", with the exception of the specimen plants. There are a lot of growers around, solely growing Cymbidium orchids for the sake of winning prizes and under the present rule, a lot of "no-hoppers" will be dumped. This will include most of the *Cym. Sarah Jeans*, *Cym. Mini Splendours*, *Cym. Tommy 'Amy'*, half of my *Cym. Kaulanis* and many, many more.

In the end there will be only a handful of Miniatures on display between January and early September after which we will then see only *Cym. devonianum* the Australian species *Cym. madidum*, *Cym. canaliculatum* and *Cym. suave* and their hybrids.

The rule will achieve nothing but a lot of disgruntled growers and club members! If you can't enjoy displaying your orchids why bother growing them, and if you don't show them, then why bother belonging to a club!

What is the answer? Creating a new class called "Intermin" is not a good idea. In the end we will still have the same mess. When the Cymbidium Club of South Australia formed its new judging rules in the early 1990s I put forward my own pro-



## CYMBIDIUMS AUSTRALIA

posal and even today still believe in it. This is my proposal:-

Judge a Cymbidium by its appearance, if it looks like a Miniature, Intermediate or Standard then judge it as such. The main differences between the three groups are easily defined.

Miniatures: small bulbs, thin and short leaves, small flowers, thin and often arching spikes, multiple spikes.

Intermediates: medium to large bulbs, medium to large leaves, larger flowers, multiple spikes, high flower count.

Standards: large bulbs, large broad and long leaves, large flowers, single spikes, lower flower counts.

As there are exceptions to the normal, a

small overlap should be allowed, so some Miniatures can have larger and some Intermediates smaller flowers, provided growth is taken into consideration. The same applies to the overlap with Intermediates and Standards. And as there is always "one" which doesn't fit anywhere, a simple classification given by a judging panel with an initial placed in front of the name ("M" for Miniature, "I" for Intermediate and "S" for Standard should eliminate any future problems.

I would also like to have a fourth class introduced namely the "Novelty" class. This class would include all the *Cym. madidum* hybrids as well as most Australian Native hybrids, plus *Cym. devonianum* and

its hybrids and other primary hybrids, usually with long arching or pendulous spikes and open, starry flowers or unusual shapes.

To highlight the inadequacy of the present judging system, this article may be reproduced without my consent. I hope it will help in some way to create a simpler and fairer system without the need for constant changes.

Note: Some items in this article are taken from the book: *The Genus Cymbidium* by David Du Puy and Phillip Cribb, a book I highly recommend to any Cymbidium grower, hybridiser and judge.

**Helmuth Gerber**  
19 Lascelles Avenue  
Hove, South Australia 5048

### SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>Queensland</b>				
18 March	8.30am-5.00pm	Autumn	Eastern District	Wondall Heights State School Hall
19 March	8.30am-3.30pm			Wondall Road, Manly West
23-25 March	Shopping Centre Hours	Autumn	Gold Coast	Pines Shopping Centre Ellanora
25 March	9.00am-5.00pm	Autumn (Charity Show)	Childers & Isis District	RSL Hall Churchill Street, Childers
31 March	9.00am-5.00pm	Autumn	Townsville	T.O.S. Hall
1 April	8.00am-5.00pm			Pioneer Park
2 April	9.00am-4.00pm			Townsville
8 April	9.00am-5.00pm	Autumn	West Brisbane	Mt. Coot-tha Botanical Gardens
9 April	9.00am-4.00pm			Auditorium, Mt. Coot-tha
8 April	8.30am-5.00pm	Autumn	Ipswich	Bundamba State School
9 April	8.30am-4.00pm			Brisbane Road, Bundamba
13-15 April	Shopping Centre Hours	Autumn	Mackay & District	Caneland Shoppingtown Mackay
13-15 April	Shopping Centre Hours	Autumn	West Moreton	Ipswich City Square Ipswich
15 April	8.00am-5.00pm	Autumn	Brisbane	Community Hall, Mt Gravatt
16 April	8.00am-3.00pm	(Charity Show)		Showgrounds, Cnr Logan Rd & Broadwater Rd, Mt Gravatt
21-22 April	9.00am-4.00pm	Autumn	Bribie Island	Ningi Community Hall Bribie Island Road
27-28 April	9.30am-4.30pm	Autumn	Sunshine Coast	Civic Centre
29 April	9.30am-2.30pm		(Caloundra)	Caloundra
28-30 April	9.00am-TBA	Autumn	Lockyer Valley	Gatton Council Shire Hall North Street, Gatton
<b>New South Wales</b>				
2-5 March	TBA	Autumn	Boolaroo Orchid Society	Newcastle Showground, Curley Road, Broadmeadow
29 March- 1 April	Shopping Centre Hours	Autumn	Alstonville	Alstonville Plaza Alstonville
13-14 April	9.00am-9.00pm	Autumn	City of Lismore	Lismore Central Shopping Centre
15 April	9.00am-2.30pm			Carrington Street, Lismore
27-29 April	Shopping Centre Hours	Autumn	Tweed District	Tweed Mall Shopping Centre Wharf Street, Tweed Heads
29 April	10.00am-5.00pm	Autumn	Combined ANOS/ Boolaroo Orchid Society	Club Macquarie, Lake Road, Argenton
30 April	9.00am-2.30pm			
<b>Colombia</b>				
29 March- 2 April	TBA	Spring	Colombian Orchid Society	Botanical Garden of Medellin Joaquin Antonio Uribe, Colombia



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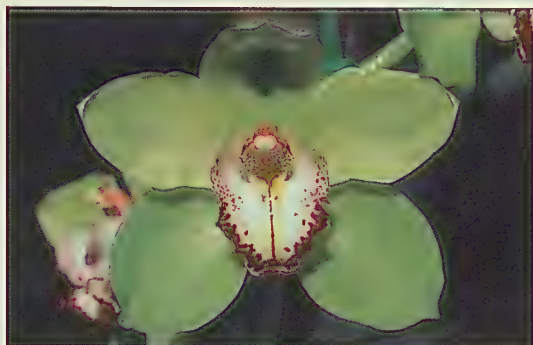


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(*Valley Zenith x Valley Gratitude*) "**Bushfire**". Our first seedlings from "Bushfire" appear in our current flask list. This clone has been cloned and orders may be lodged for flasks. It is a productive plant that flowers in July/Aug and should prove a seller for the pot plant trade.



*Latrobe* "**Blushing Bride**". Our various *Latrobe* crosses have produced many excellent clones. Most are sought after as mericlones or divisions but we expect even better results from their seedlings. See our current catalogue for several new crossings by our *Latrobes*.

**Our 2000 Cymbidium Seedling Flask Catalogue** is available on request, please phone, write or call in for a copy.

For those with a computer we also have in preparation an **illustrated colour catalogue** on computer disk. Details and an order form are provided in our printed catalogue.

Our catalogue introduces several new parents for the first time and we have no doubt that they too will produce quality progeny.

During the year we will be releasing the first of what will be a very extensive range of **Cymbidiums** and **Cattleyas** mericlones

Initially these will be available as compots and plants only but flasks will be offered of each as and when sufficient stocks are available.

## **Trial Flask Special Offer**

We always have a special trial flask offer for those who have never purchased a flask of seedlings from us before. Details are provided in our catalogues, and they also appear in our **June 1999** advertisement.

## **Visiting Melbourne on Sunday July 30th?**

Then why not see us at the **Maroondah Orchid Society's Orchid Market Day** where 50 private and

commercial seller stalls will be operating. Full details are in our catalogues.

## **Clearance Sale Catalogues**

Our rebuilding clearance sale is continuing. Please see our **June 1999** advertisement for details. A new expanded catalogue is due for release later this month and is available on request.

## **PAY US A VISIT**

We now have an extensive range of new seedlings and mericlones ready to sell but do not yet have sufficient to include in our catalogues. We also have many other items to clear that are not included in our catalogues.

**We are open 7 days a week from 9.30am to 4.30pm and you may phone evenings from 6.30pm to 8.30pm daily. (Our phone line has been faulty and failing to connect some incoming calls for some months. The fault should be fixed but if no answer during day please try after 6.30pm!)**

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# Australian Orchid Review



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AOR 124

## From the Editor's Desk



We have received plenty of positive feedback on the redesigned front cover, which debuted last issue. This has also made the magazine more visible on newsstands.

Rudolf Jenny, the world authority on the *Stanhopeinae*, has contributed arguably the most comprehensive review of the genus *Paphinia* ever published. This genus is gaining in popularity in Australia as seedlings and imported plants become available. Many produce huge flowers off modest plants. All of the recognised species are treated with most of these also illustrated. We are very pleased to have the privilege of publishing such important papers in the *Australian Orchid Review*.

Perfume in orchid blooms often influences growers on what plants they choose to grow. Few orchids have as strong a fragrance as members of the easily grown *Zygopetalum*. In this issue, John Woolf from Florafest Orchids, shares his vast knowledge on this and related genera. The range of colours and shapes has broadened greatly over the past decade or so, as more strategic hybridising has been undertaken. I am sure you will be impressed with the photographic essay which accompanies this paper. Florafest, which is based in Toowoomba - southern Queensland, grow a wide range of orchid species and hybrids and have received a host of awards for their plants.

It is nice to see contributions from a couple of respected orchidists from North Queensland. Bill Lavarack continues his "Orchids of Interest" series, with discussion on the Philippine endemic *Eria aporoides*. Mick Keith, from Keiths Nursery, has been one of the people responsible for the increased interest in Madagascan orchids over the past few years. Many interesting species were imported and distributed to customers throughout Australia. In this issue, Mick introduces readers to the grand *Grammangis ellisii*, from a genus related to *Grammatophyllum* and *Cymbidium*.

Colin Hamilton, former Editor of *Orchids Australia*, has given us his guide to the top orchid sites on the Internet. Colin is a bit of a computer wiz, and has spent a lot of time on the world wide web, browsing the growing number of orchid related web pages from around the globe.

*Dendrobium* Dawn Marie 'GJW' featured on the cover of the August-September 1999 issue of the *Australian Orchid Review*. Greg J. Williams from Rockhampton recently contacted me to let me know a bit more about this plant. "I purchased the flask of seedlings in Thailand back in 1978. They were rather difficult to grow except for one plant, which grew most vigorously. In 1984 the Maidments, of Aranbeem Orchids, my wife Claire, and I went to the Honolulu Orchid Show and met up with H & R Orchids. When they saw a photo of my plant they asked if they could mericlone it. This they did and the plant was widely distributed by them and by Aranbeem Orchids in Australia. It has proved a valuable breeding plant for H & R. They flowered a tetraploid mutation from the cloning which further advanced these lines of breeding." So that's where the cultivar name came from!

David P. Banks

Editor, *Australian Orchid Review*  
dpbanks@ozemail.com.au



## OUR COVER



*Zygopetalum Adelaide Meadows 'Emma'*

An outstanding example of this intergeneric hybrid grown by Florafest Orchids, Queensland. Read John Woolfs thoughts on their development, potential and cultivation in this issue. — *Photo: David P. Banks*

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### Editorial copy:

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David P. Banks, 14 McGill Street, Lewisham, NSW 2049  
All other correspondence to:  
AOR Publisher,  
Graphic World, 14 McGill Street, Lewisham, NSW 2049.

### Advertisers:

Deadline for advertising copy for the June/July 2000 issue is Tuesday, 18 April, 2000.  
All advertising bookings and enquiries should be directed to Barry Badger.  
Phone: (02) 9560 6166. Fax (02) 9564 0516.

### Subscriptions:

See insert for Subscription information.



# A Review of the Genus *Paphinia*

by Rudolf Jenny

**T**he genus *Paphinia* belongs to the subtribe *Stanhopeinae* and was described by John Lindley in 1843 (Lindley, 1843). With only 13 species and a few varieties and forms *Paphinia* is one of the smaller genera in the subtribe.

From 1843 to 1966 only four accepted species were described. Between 1966 and 1999 no less than nine new species have become known, together with three varieties or forms. One reason for this is that many localities in South America have become accessible during the last 30 years. Another reason is the possibility to work with fresh material or pickled specimens and not with dried flowers only. Especially the calli and the claw of the lip are very difficult to see in dried specimens. It is possible that some of the herbarium specimens in different herbaria, labelled as *Paphinia cristata* or *Paphinia rugosa* are in fact identical with one or the other of the newer species.

*Paphinia* is a very homogenous genus; most of the species seem to be very similar at first glance. The morphology of the lip is very similar in all the species, the differences being especially the form of the calli, the claw and the cilia. Most species seem to be quite variable in coloration, some have albino forms and of a few species also paler coloured forms, intermediate between the

"normal" form and an albino are known. Male *Euglossini* bees pollinate all species. We only know the pollinators of two species, but the fact that several species are sharing the same habitat is a very strong indication for reproductive isolation by selective pollinators, attracted by a specific composition of the fragrances. The closest allied genus to *Paphinia* is *Houlletia* Brongniart.

## Checklist

*Paphinia benzingii* Dodson & Neudecker

Die Gattung *Paphinia* (Teil 1): *Die Orchidee* 41:1990.230 - 234

Type: Ecuador, Esmeraldas, km 12 road Lita - San Lorenzo, 750 m, Dodson 16805 et al. (Holotype RPSC, Isotype HEID)

Dist.: Northwestern Ecuador

*Paphinia clausula* Dressler see *Paphinia subclausa* Dressler

*Paphinia cristata* (Lindley) Lindley

*Edwards's Botanical Register* 29:1843.misc.p.14

Basionym: *Maxillaria cristata* Lindley (*Edwards's Botanical Register* 21:1835.t.1811)

Synonyms: *Lycaste cristata* (Lindl.) Nicholson (*Illustrated Dictionary of Gardening* 4:561)

*Paphinia cristata* var. *randii* L.Linden (*Lindenia* 1:1885.t.30)

*Paphinia randii* L.Linden & Rodigas (*Lindenia* 1:1885.t.30)

Type: Trinidad, ex cult. Knight (King's road nursery), Lindley (as *Maxillaria cristata*), Holotype K

Dist.: Panama, Trinidad, Venezuela, Colombia, Bolivia, Brazil and Guyanas

*Paphinia cristata* var. *modiglianiana* Rchb.f.

*Lindenia* 3:1887.t.117

Synonym: *Paphinia modigliani* hort. ex Linden (*Lindenia* 3:1887.sub t.106)

Type: ex cult. Linden 1887, Herb. Reichenbach No. 19173 Holotype W

Dist.: Brazil

*Paphinia cristata* var. *randii* Linden see *Paphinia cristata* (Lindl.) Lindl.

*Paphinia dunstervillei* Dodson & Neudecker, nom. illeg., see *Paphinia dunstervillei* Dodson & Romero

*Paphinia dunstervillei* Dodson & Romero

*American Orchid Society Bulletin* 62:1993.896 - 900

Synonym: *Paphinia dunstervillei* Dodson & Neudecker (*Die Orchidee* 42:1991.45 - 50, Nom. illeg.)

Type: Venezuela, Amazonas, Dept. Atures, Cano Ucata, 31.5.1993, G.A. Romero et al. 2482, Holotype VEN, Isotypes AMES & TFAV

Dist.: Southern Venezuela

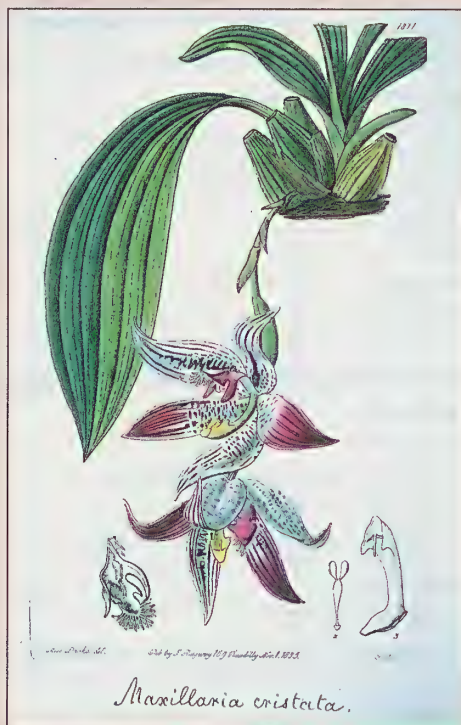


Fig. 1: Plate 1811 of *Paphinia cristata* (as *Maxillaria cristata*) from *Edwards's Botanical Register* 1835






Fig. 8: *Paphinia  
neudeckeri* Jenny  
from Colombia  
(Slide R. Jenny)





Fig. 2: *Paphinia subclausa* Dressler from Costa Rica (Slide R.Jenny)

*Paphinia grandiflora* Barb.Rodr.  
 Genera et Species *Orchidearum Novarum* 1:124.1877  
 Synonyms: *Paphinia grandis* Rchb.f. ex Moore (*Orchid Album* 4:1885.t.145)

*Paphinia nutans* Houlet (*Revue Horticole* 1878:188)



Fig. 3: Albino form of *Paphinia herrerae* from Ecuador (Slide Peter Gray)

Type: Iconotype, Barbosa Rodriguez-drawings, Vol.5, t.224 (published in 1991)  
 Dist.: Amazon-area Brazil

*Paphinia grandis* Rchb.f. ex Moore see *Paphinia grandiflora* Barb.Rodr.

*Paphinia herrerae* Dodson

*Icones Plantarum Tropicalium* Ser.2,6:1989.t.565

Type: Ecuador, Zamora-Chinchi, near Zamora, 1000 m, comm. by Dra Victoria Herrera, ex cult. 1.9.1986, Dodson 16614, Holotype QCNE, Isotype RPSC

Dist.: Southeastern Ecuador

*Paphinia hirtzii* Dodson

*Icones Plantarum Tropicalium* Ser.2, 6:1989.t.566

Type: Ecuador, Esmeraldas, km 8 road to Santa Rosa de Chaco, off the road Ibarra to Lita, 1400 m, 20.8.1988, Dodson & Hirtz 17673, Holotype QCNE, isotype RPSC

Dist.: Northwestern Ecuador



Fig. 4: *Paphinia grandiflora* Barb.Rodr. from Brazil (Slide G.Preissel)

*Paphinia lindeniana* Rchb.f.

Flora 70:497.1887

*Lycaste lindeniana* (Rchb.f.) Nicholson  
 (Dict.Gard. 4:1888.561)

Type: Venezuela, ex cult.Linden, Herb.Reichenbach No.19174, Holotype W

Dist.: Colombia, Venezuela, Brazil and Peru

*Paphinia litensis* Dodson & Neudecker

Die Gattung *Paphinia* (Teil 3): *Die Orchidee* 42:1991.79- 85

Type: Ecuador, Esmeraldas, km 9 road Lita - San Lorenzo, 750 m, 18.1.1987, Dodson 16480 et al., Holotype RPSC

Dist.: Ecuador

*Paphinia modigliani* hort.ex Linden see *Paphinia cristata* var. *modiglianiana* Rchb.f.

*Paphinia neudeckeri* Jenny

Eine neue *Paphinia*: *Paphinia neudeckeri* aus Ecuador; *Die Orchidee* 34:1983.189 - 191

Type: Ecuador, Oriente, between Tena and Baeza, 1200



m, col.T.Neudecker 2.1982, ex cult. Jenny No.36,  
Holotype G, Isotype Herb.Jenny  
Dist.: Eastern and southern Ecuador

*Paphinia neudeckeri* var. *mocoaensis* Jenny  
Zwei neue Orchideen aus Kolumbien; *Die Orchidee*  
35:1984.130 - 131

Type: Colombia, near Mocoa, 400 - 500 m, 2.1982,  
col.T.Neudecker, ex cult, Holotype G  
Dist.: Ecuador (Mocoa)

*Paphinia nutans* Houlet see *Paphinia grandiflora* Barb.Rodr.

*Paphinia posadorum* Dodson & Escobar  
*Paphinia posadorum*, una nueva especie de Colombia;  
*Orquideologia* 18:1993.229 - 236

Type: Colombia, Dept.Choco, Carmen de Atrato, 1500  
m, col.E.Valencia 10.1988, flowered in cultivation  
10.8.1992, Dodson 19014, Holotype RPSC,  
Isotype JAUM  
Dist.: Colombia



Fig. 6: *Paphinia seegeri* Gerlach from Colombia (Slide Ron Parsons)

*Paphinia rugosa* var. *sanderiana* Rchb.f.  
*Gardeners' Chronicle* new.ser., 12:1879.520  
Type: Colombia, Buenaventura, col.J.H.Chesterton,  
1879, Herb.Reichenbach No.19181, Holotype W  
Dist.: Colombia

*Paphinia seegeri* Gerlach  
*Paphinia seegeri*, eine neue Orchidee aus den pazifischen  
Urwäldern Kolumbiens; *Die Orchidee* 40:1989.17 - 21  
Type: Colombia, Choco, 100 m, Holotype HEID  
Dist.: Western Colombia

*Paphinia seegeri* var. *semi-alba* Gerlach  
*Paphinia seegeri*, eine neue Orchidee aus den pazifischen  
Urwäldern Kolumbiens; *Die Orchidee* 40:1989.17 - 21  
Type: Colombia, Choco, 100 m, Holotype HEID  
Dist.: Western Colombia



Fig. 5: *Paphinia lindeniana* Rchb.f. from Venezuela (Slide G.Preissel)

*Paphinia randii* L.Linden & Rodigas see *Paphinia cristata*  
(Lindley) Lindley

*Paphinia rugosa* Rchb.f.  
Linnaea 41:1877.110  
Type: Colombia, Cauca, col.G.Wallis, Herb.Reichenbach  
No.18181, Holotype W  
Dist.: Western Colombia

*Paphinia rugosa* var. *kalbreyeri* Rchb.f.  
*Gardeners' Chronicle* new.ser., 14.1880.778  
Type: Colombia, col. Kalbreyer, ex cult.Veitch, Herb.  
Reichenbach No.19180, Holotype W  
Dist.: Colombia



Fig. 7: *Paphinia neudeckeri* var. *mocoaensis* Jenny from Colombia (Slide T.Neudecker)



*Paphinia subclausa* Dressler

New species and combinations in Costa Rican Orchids: *Novon* 7:1997.123 - 124

Synonym: *Paphinia clausula* Dressler (*Taxon* 15:1966.242) nomen illegi.

Type: Costa Rica, Reserva Juan Castro Blanco, 900 m, 1989, D.E.de Retana, Holotype USJ

Dist.: Costa Rica, Panama and northwestern Colombia

*Paphinia tigrina* hort.

Orchidées cultivées chez M.Linden a Bruxelles; *Revue Horticole* Ser.3, 5:1851.302 - 305

Nomen nudum

**The Species**

*Paphinia benzingii* Dodson & Neudecker

The type was collected by Calaway Dodson in Ecuador, Department Esmeraldas at 750 m altitude. The description was published in a comprehensive treatment of the genus *Paphinia* by Dodson and Neudecker during the years 1990 and 1991 in the



Fig. 9: *Paphinia litensis* from Ecuador (Slide G.Preissel)

German bulletin *Die Orchidee* (Dodson & Neudecker, 1990). In the same area in Ecuador we also find *Paphinia hirtzii* and *Paphinia litensis*. We don't have the analysis of the fragrance and we don't know the pollinator yet, but the fact that three different species are growing in the same area indicates that they are reproductively isolated, very probable by a single or a few specific pollinators and therefore by different fragrances. The locality is extremely wet and the species seem to be very rare in culture and rather difficult to grow.

*Paphinia cristata* (Lindley) Lindley

This is the type species of the genus. It was originally described and illustrated by John Lindley as *Maxillaria cristata* in 1836, based on plants from the collection of M.J.Knight in England (Lindley, 1836). In 1843 Lindley created the genus *Paphinia* and transferred *Maxillaria cristata* to *Paphinia cristata*



Fig. 10: *Paphinia rugosa* Rchb.f. from Colombia (Slide Howard Gunn)

(Lindley, 1843). Around 1848 some plants of the species were collected in Surinam by Herman Kegel, who sent the plants to the nursery of Louis Van Houtte in Belgium and from there they were distributed to quite a number of different orchid collections in Europe. In 1883 George Bentham integrated *Paphinia* in *Lycaste* (Bentham, 1883), but he did not mention or transfer the species. The transfer of *Paphinia cristata* to *Lycaste cristata* was done in 1888 by George Nicholson (Nicholson, 1888).

The species was not rare in cultivation, but some of the plants cultivated as *Paphinia cristata* have probably been misidentified. The flowers are quite variable in size but almost constant in colour, the size may depend on cultivation, also the number of flowers of the inflorescence. *Paphinia randii* and *Paphinia cristata* var. *randii* were described by L.Linden 1885 in *Lindenia*, dedicated to E.S.Rand, collector in Brazil. The illustration is clear enough to see that the species or variety was based



Fig. 12: *Paphinia cristata* (Ldl.) Ldl. from Colombia (Slide R.Jenny)





Fig. 13: *Paphinia cristata* var. *modiglianiana* Rchb.f., plate 117 from *Lindenia*, 1887

only on a few differences and the lighter colour (Linden, 1885). We should consider this variety as a synonym of *Paphinia cristata*. In the same text L.Linden used two different ranks for this plant, *Paphinia randii* L.Lind. & E.Rodigas as a species in the title and *Paphinia cristata* var. *randii* as a variety in the subtitle; the description belongs to *Paphinia randii* as a species;



Fig. 14: *Paphinia cristata* var. *randii* Linden, plate 30 from *Lindenia*, 1885

obviously the intention was to describe the plant as a species and not as a variety.

#### *Paphinia cristata* var. *modiglianiana* Rchb.f.

This pure white *Paphinia* was first mentioned in 1887 in *Lindenia* as *Paphinia modigliani*, it was described and illustrated as *Paphinia cristata* var. *modiglianiana* in 1887 by Reichenbach again in *Lindenia*, the description was based on material collected by E.S.Rand in Brazil (Reichenbach, 1887b). Rand had sent the plants to the nursery Linden in Belgium, and from Linden, Reichenbach got the material he used for the first description. Linden also proposed to dedicate the variety to the Italian orchid enthusiast Chevalier Ludovico Modigliani, a name Linden had already used for the same plant in *Lindenia*, but without formal description. Reichenbach published the description again in 1888 in *Gardeners' Chronicle* (Reichenbach, 1888). Obviously several plants of the albino form had been in cultivation in the collections of Trevor Lawrence in England, of L.Modigliani in Florence, and of Linden in Ghent. In the Reichenbach herbarium in Vienna we find two flowers from the Linden plant (sheet 19173). Obviously it was an albino of *Paphinia cristata*. Certainly Reichenbach's plant is not identical

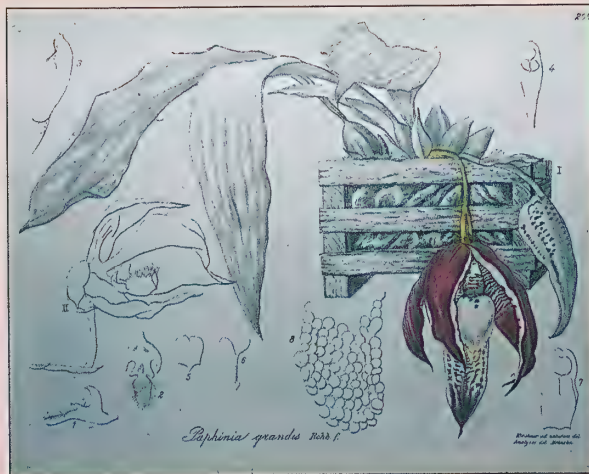


Fig. 15: *Paphinia grandis* (syn. of *Paphinia grandiflora*) from *Xenia Orchidacea*

with the white species collected in Costa Rica and Panama named by Dressler, first as *Paphinia clausula* and later *Paphinia subclausa*.

#### *Paphinia dunstervillei* Dodson & Romero

This species was collected in 1969, and first mentioned and illustrated 1979 as *Paphinia cristata* with upright inflorescences by Dunsterville in the *AOS Bulletin* (Dunsterville, 1979). Until now it is the only species of the genus with erect inflorescences, and details of the lip show very clearly, that it is not a form of *Paphinia cristata*, but a species of its own. The first new description as *Paphinia dunstervillei* was published in 1991 by Dodson and Neudecker (Dodson & Neudecker, 1991). Unfortunately the authors cited two different illustrations as type, and since this is, following the code of botanical nomenclature, not allowed, the description is formally invalid. In 1993 Dodson and Romero published a new description, based on a specimen collected by Romero in Venezuela. Therefore the correct name is *Paphinia dunstervillei* Dodson & Romero (Dodson & Romero, 1993).





Fig. 16: *Paphinia lindeniana* Rchb.f. from *Lindenia*, plate 106, 1887

#### *Paphinia grandiflora* Barb.Rodr.

This was the second species in the genus, described in 1877 by Barbosa Rodriguez in *Genera et Species Orchidearum Novarum* (Rodriguez, 1877). The drawing of *Paphinia grandiflora* mentioned in the first description remained unpublished until 1991, when the remaining collection of the drawings he made for his *Genera et Species Orchidearum Novarum* - more than one hundred years later - was published.

*Paphinia grandis* Rchb.f. ex Moore, described and illustrated 1885 in *Orchid Album* by Moore after a manuscript note of Reichenbach is certainly a synonym of *Paphinia grandiflora*. The illustration was made after a plant from the collection of W. Williams and is not very realistic concerning flower form and

coloration. Obviously Reichenbach and later Kraenzlin had no access to the drawings of Barbosa Rodriguez, and they probably ignored the description of *Paphinia grandiflora*. We know that Reichenbach knew Rodriguez' *Genera et Species Orchidearum Novarum*, we also know that he was not very happy that Rodriguez refused to send him all his material of Brazilian orchids and to allow him to publish an orchid flora of Brazil. So probably Reichenbach was not very motivated to recognize the identity of Rodriguez' *Paphinia grandiflora* and his *Paphinia grandis*, at least he hesitated to publish *Paphinia grandis* himself, he mentioned the name only in a manuscript, and it was T. Moore who published it in the *Orchid Album*. Kraenzlin published the first realistic illustration in 1892, in the third volume of Reichenbach's *Xenia Orchidacea* after a watercolour drawing made by J. Kirchner (Kraenzlin, 1892). Also *Paphinia nutans*, described in 1878 by Houlet in *Revue Horticole*, seems to be a synonym of *Paphinia grandiflora*.

#### *Paphinia herrerae* Dodson

*Paphinia herrerae* is considered the species easiest to grow and to flower in cultivation. The species was described and illustrated 1989 by Calaway Dodson in *Icones Plantarum Tropicarum* (Dodson, 1989), based on a plant collected in Ecuador. *Paphinia herrerae* is extremely variable in its coloration and its flowers - spread up to 30 cm - are the largest in



Fig. 18: *Paphinia rugosa* var. *kalbreyeri* Rchb.f. from John Day Scrap Books 1.11.1881. With the permission of the controller of Her Majesty's stationary office and the Director of the Royal Botanic Gardens Kew

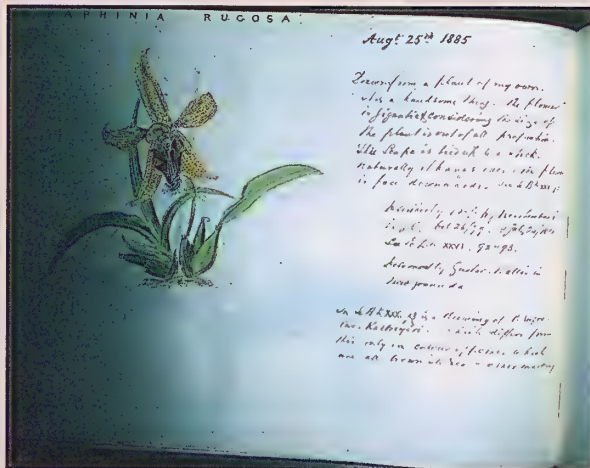


Fig. 17: *Paphinia rugosa* from John Day Scrap Books 25.8.1885. With the permission of the controller of Her Majesty's stationary office and the Director of the Royal Botanic Gardens Kew

the genus. The species is named after Victoria Herrera, educator and orchid collector in Loja, Ecuador.

The flowers of the albino form are absolutely identical with the typical *Paphinia herrerae* but sepals, petals and lip are pure white without any spots, and the column is yellow. At least one clone of this form, collected in Ecuador was propagated, we don't know at the moment whether the seedlings from a selfing will also be true albinos. Rumours that albinos of several *Paphinias* being present in collections started a few years ago. Until now I have seen several plants in flower, and it seems that all are from two different collections, probably divisions of one or two collected plants.

#### *Paphinia hirtzii* Dodson

*Paphinia hirtzii* was described and illustrated in 1989 by Dodson, together with *Paphinia herrerae* in *Icones Plantarum Tropicarum* (Dodson, 1989). The plant is closely related to



*Paphinia neudeckeri*, the locality in Ecuador near Lita, where the specimens had been collected is extremely wet and humid. The species seems to be rather difficult to grow.

*Paphinia lindeniana* Rchb.f.  
*Paphinia lindeniana*, named after the famous Jean Jules Linden, owner of one of the largest orchid nurseries in Europe in the last century. This was described in 1887 by Reichenbach in the German journal *Flora* (Reichenbach, 1887). The species had been collected by E. Bungeoth near the source of the Orinoco in Venezuela at about 600 m altitude. The first plant was in flower in September 1887 during an exhibition in Ledeborg, Belgium. In 1888 George Nicholson, curator at Kew, transferred *Paphinia lindeniana* to the genus *Lycaste* as *Lycaste lindeniana* (Rchb.f.) Nicholson (Nicholson, 1888). A first illustration of the species was published in 1887 in *Lindenia* (Linden, 1887).

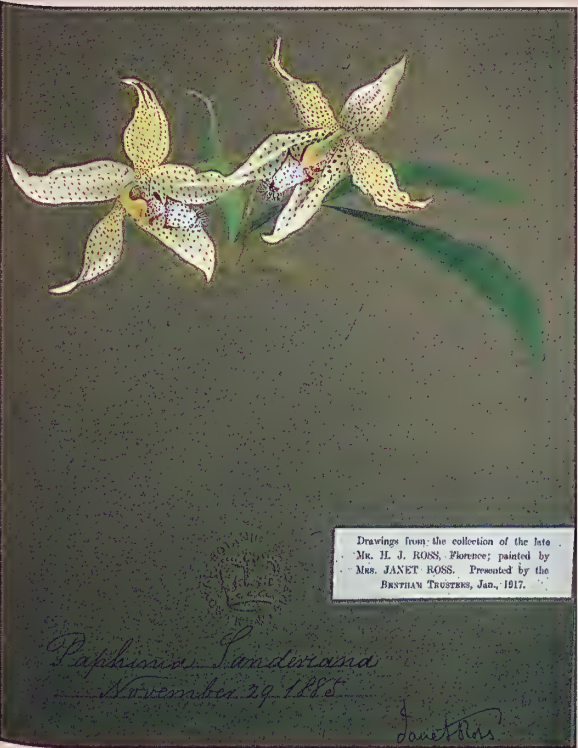


Fig. 19: *Paphinia rugosa* var. *sanderiana* Rchb.f., unpublished drawing by Janet Ross from the Kew collection. With the permission of the controller of Her Majesty's stationary office and the Director of the Royal Botanic Gardens Kew

*Paphinia litensis* Dodson & Neudecker  
This species was collected in the same area as *Paphinia hirtzii* and *Paphinia benzingii* near Lita in northern Ecuador. The first description, together with a colour photograph was published in 1991 by Dodson and Neudecker in *Die Orchidee* (Dodson & Neudecker, 1991b).

*Paphinia neudeckeri* Jenny  
This was the first species of the genus that was described in the 1900's. The plant was collected in Ecuador and described in 1983 by Jenny in the German bulletin *Die Orchidee* (Jenny, 1983). Obviously *Paphinia neudeckeri* is very variable in coloration and flower size.



Fig. 20: *Paphinia herrerae* from Ecuador (Slide G.Preissel)

*Paphinia neudeckeri* var. *mocoaensis* Jenny  
Only one single plant has been collected of this very attractive variety near Mocoa in Colombia by Tilman Neudecker. Morphologically the flower is identical with *Paphinia neudeckeri*, but the coloration is quite different. Fortunately a division from the type specimen of the variety is still alive and seedlings are available. The variety was described in 1984 by Jenny in the German bulletin *Die Orchidee* (Jenny, 1984).



Fig. 21: Drawing of *Paphinia grandiflora* Barb.Rodr., done by the daughter of Thysselton Dyer after the original drawing by Barbosa Rodriguez. With the permission of the controller of Her Majesty's stationary office and the Director of the Royal Botanic Gardens Kew



*Paphinia posadorum* Dodson & Escobar

This species was first collected in 1988 in the Choco in Colombia and described in 1993 by Dodson and Escobar in the Colombian journal *Orquideologia* (Dodson & Escobar, 1993). The species is named after Jaime und Ligia Posada from Colomborquideas in whose collection the plants first flowered in 1992. Later the species was also collected in northern Ecuador (Maldonado), only about 60 km away from Lita and in the same area in which *Paphinia benzingsii*, *Paphinia hirtzii* and *Paphinia litensis* have been collected. Ecuador seems to be the centre of speciation in this genus.

*Paphinia rugosa* Rchb.f.

This species was collected in 1876 by Gustav Wallis in Colombia and described 1877 by Reichenbach in the journal *Linnaea* (Reichenbach, 1877) from a single dried flower. Reichenbach designated the Wallis flower as type but in the first description he mentioned that he had material from the famous



Fig. 22: *Paphinia rugosa* var. *kalbreyeri* from Colombia (Slide R.Jenny)

Keferstein collection. The light yellow coloured form Reichenbach described seems to be extremely rare in cultivation. The best illustration of this species is the unpublished drawing in John Day's scrap books (dated 25.8.1885), made from a cultivated plant, which was also originally collected by Gustav Wallis in Colombia. The type specimen in the herbarium of Reichenbach is not identical with Day's plant.

*Paphinia rugosa* var. *kalbreyeri* Rchb.f.

This variety of *Paphinia rugosa* was collected by Kalbreyer in Colombia, Department Cauca, and described in 1880 by Reichenbach in *Gardeners' Chronicle* (Reichenbach, 1880). The variety is not rare in cultivation and very probably Reichenbach described one of the rare aberrant colour varieties as species and the more common "normal" form of the species as variety *kalbreyeri*. Again, the first illustration of the variety was done by



Fig. 23: Drawing of *Paphinia rugosa*, Herbarium Reichenbach No.19180

John Day in his scrap books (dated 1.11.1881) after a plant imported from Colombia by Veitch.

*Paphinia rugosa* var. *sanderiana* Rchb.f.

This variety is extremely rare in cultivation. Reichenbach described it from a plant collected by Joseph Henry Chesterton near Buenaventura in Colombia. Following Reichenbach, Chesterton asked him to name the plant after Frederick Sander. The description was published in 1879 in *Gardeners' Chronicle* (Reichenbach, 1879). The only difference to *Paphinia rugosa* is the colour, the morphology is identical, it is therefore questionable whether the rank of a variety chosen by Reichenbach is acceptable. Probably the rank of forma would be more appropriate. The first good illustration of this plant was published in 1991 in *Native Colombian Orchids*; the picture was taken from a specimen in the collection of Marta and Oscar Robledo in Colombia (Neudecker, 1991). There is an unpublished drawing of *Paphinia rugosa* var. *sanderiana* by Janet Ross in the Kew collection (dated 29.11.1885).

*Paphinia seegeri* Gerlach

This is one of two known species of *Paphinia* described over the past decade or so, which were not collected in Ecuador. The plant was first seen in the Choco in Colombia. Günter Gerlach published the description in 1989, in the German bulletin *Die Orchidee* (Gerlach, 1989). *Paphinia seegeri* is named after H.G.Seeger, gardener at the botanical garden Heidelberg, Germany, a grower with "green thumbs".

*Paphinia seegeri* var. *semi-alba* Gerlach

Together with *Paphinia seegeri*, Gerlach also described an



aberrant colour form as *Paphinia seegeri* var. *semi-alba*, collected again in the Choco in Colombia. Again it is questionable whether the rank of a variety is appropriate for a single plant with flowers of a different colour.

#### *Paphinia subclausa* Dressler

This plant was known from Costa Rica for many years but it was always misidentified as *Paphinia cristata* var. *modiglianiana* Rchb.f. from Brazil (Horich, 1967). The morphology of the flower is entirely different from *Paphinia cristata* and all known specimens have been collected in Panama or Costa Rica. In 1966 Dressler named the plant *Paphinia clausula* (Dressler, 1966), using in fact *Paphinia cristata* var. *modiglianiana* as type, but with the new rank of a species. In the meantime we are quite sure that Reichenbach's var. *modiglianiana* was a true albino of *Paphinia cristata* and therefore the plant from Costa Rica and Panama had to be renamed again. In 1997 Dressler did just this and described it in Novon as *Paphinia subclausa*, based on a type specimen collected by Dora E. de Retana in Costa Rica (Dressler, 1997).

#### Distribution:

The genus is distributed from Costa Rica and Panama in Central America through Colombia to Ecuador and in Venezuela, the Guyanas and the northern part of the Amazon basin in Brazil. One species is also occurring in Trinidad. In Central America only one species, *Paphinia subclausa* can be found; the centre of speciation and distribution seems to be



Fig. 24: Drawing from the Reichenbach herbarium in Vienna, without number and determination, probably an unknown species



Fig. 25: *Paphinia grandis* (= *Paphinia grandiflora* Barb.Rodr.) from Warner & Williams, *Orchid Album* (t.145)

northern Ecuador and southern Colombia. Usually the habitats are warm, extremely wet and there are no dry seasons or dry periods. *Paphinias* are epiphytes, with the exception of *Paphinia dunstervillei*, which grows terrestrial in Venezuela.

#### Culture:

Some species like *Paphinia herrerae* and *Paphinia neudeckeri* seems to be quite easy to grow, some others like *Paphinia seegeri* and *Paphinia subclausa* are more difficult. The plants should be cultivated in the warm part of the greenhouse with a high and constant humidity, the difference between night and day temperature should be around 5°C, the day temperature should be between 20 and 25°C, it is important that the plants are dry in the evening to avoid fungus spots on the leaves because of the temperature drop during the night. Like many other members of the subtribe, *Paphinias* don't like direct sun and too much light. The plants don't need dry seasons. Generally the culture of *Paphinia* is the same as for *Sievekingia*, *Soterosanthus* and *Kegeliella*.

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Fig. 26: Columns, lips and calli of the different species of the genus *Paphinia* (Drawings Rudolf Jenny)





*Zygopetalum* Helen Ku x (maxillare x John Banks)

# The *Zygopetalum* Alliance

Text and photographs by John Woolf

**T**he *Zygopetalum* Alliance falls into the Tribe *Maxillarieae* within the Orchidaceae, and in theory should interbreed with any of the genera below.

## Subtribe *Zygopetalinae*

*Acacallis*, *Aganisia*, *Batemannia*, *Bollea*, *Chaubardia*, *Chondrorhyncha*, *Cochleanthes*, *Galeottia*, *Huntleya*, *Kefersteinia*, *Koellensteinia*, *Mendoncella*, *Neogardneria*, *Otostylis*, *Pabstia* (*Colax*), *Pescatoria*, *Promenaea*, *Stenia*, *Warrea*, *Zygopetalum*, *Zygosepalum*.

## Subtribe *Bifrenariinae*

*Bifrenaria*, *Teuscheria*, *Xylobium*.

## Subtribe *Lycastinae*

*Anguloa*, *Lycaste*, *Neomoorea*.

## Subtribe *Maxillariinae*

*Cryptocentrum*, *Cyrtidiorchis*, *Maxillaria*, *Mormolyca*, *Scuticaria*, *Trigonidium*.

## The *Zygopetalum* Species

- \* *Z. brachypetalum* – Brazil – Flowers Autumn / Winter. Very similar to *Z. intermedium*.
- \* *Z. crinitum* – Brazil – Flowers Summer / Autumn.
- \* *Z. intermedium* – Brazil – Flowers Autumn / Winter. Differs from *Z. mackayi* in that the petals & sepals are the same length and the inner part of the labellum is fuzzy and hairy.
- \* *Z. mackayi* – Brazil – Flowers Autumn / Winter.
- \* *Z. bolivianum* – Bolivia, Peru – Flowers Winter.
- \* *Z. burkei* – Venezuela – Brazil – Flowers Autumn / Winter.
- \* *Z. graminifolium* – Brazil – Flowers Summer.
- \* *Z. maxillare* – Brazil -Paraguay – Flowers Winter / Spring.
- \* *Z. mosenianum* – Brazil – Flowers Winter / Spring. Likes very moist conditions.
- \* *Z. triste* – Brazil – Flowers Summer.

Intergeneric Grexes with *Zygopetalum* in

their parentage;

- \* *Aitkenara* = *Zygopetalum* x *Otostylis* x *Zygosepalum*
- \* *Alangreatwoodara* = *Zygopetalum* x *Colax* x *Promenaea*
- \* *Bollopetalum* = *Zygopetalum* x *Bollea*
- \* *Cochlepetalum* = *Zygopetalum* x *Cochleanthes*
- \* *Durutyara* = *Zygopetalum* x *Batemannia* x *Otostylis* x *Zygosepalum*
- \* *Galeopetalum* = *Zygopetalum* x *Galeottia*
- \* *Hamelswellara* = *Zygopetalum* x *Aganisia* x *Batemannia* x *Otostylis* x *Zygosepalum*
- \* *Kanzerara* = *Zygopetalum* x *Chondrorhyncha*
- \* *Masonara* = *Zygopetalum* x *Aganisia* x *Batemannia* x *Colax* x *Otostylis* x *Promenaea* x *Zygosepalum*
- \* *Phillipsara* = *Zygopetalum* x *Cochleanthes* x *Stenia*
- \* *Propetalum* = *Zygopetalum* x *Promenaea*
- \* *Woodwardara* = *Zygopetalum* x *Colax* x *Zygoneria*





*Zygopetalum maxillare*

- \* *Zygotatmanina* = *Zygopetalum* x *Batemanina*
- \* *Zygocaste* = *Zygopetalum* x *Lycaste*
- \* *Zygocolax* = *Zygopetalum* x *Colax*
- \* *Zygodisanthus* = *Zygopetalum* x *Paradisanthus*
- \* *Zygolum* = *Zygopetalum* x *Zygosepalum*
- \* *Zygoneria* = *Zygopetalum* x *Neogardneria*
- \* *Zygonisia* = *Zygopetalum* x *Aganisia*
- \* *Zygorhyncha* = *Zygopetalum* x *Chondrorhyncha*

- \* *Zygotstylis* = *Zygopetalum* x *Otostylis*
- \* *Zygotorea* = *Zygopetalum* x *Pescatorea*
- \* *Zygowarrea* = *Zygopetalum* x *Warrea*

My first contact with these beautiful scented orchids was with the purchase of a plant of *Z. intermedium* at a local orchid show, and being crazy about species propagation, the plant was selfed and the seedlings grown on.

Finding the genus suited our cool climate; I began purchasing others such as *Z. crinitum*, *Z. maxillare*, *Z. John Banks*, *Z. Artur Elle* 'Aranel', *Z. B.G. White*

'Stonehurst' and several flasks from the Santa Barbara Orchid Estate, California, USA. Around this time Gordon Bloodworth purchased a flask of *Z. Titanic* and these were grown on. A number of these flowered and two were selected for their size and quality, 'Schier Khan' and 'Sparkle', and a sibling cross was made. The quality of the ensuing seedlings stunned us, with a large proportion of clones far superior to the parents: *Z. Titanic* 'Florafest's Giant' HCC/AOC-QOS, 'Jeannie', 'Black Leopard', 'Velvet Triangle', 'Tetra', and 'Blue Velvet' were among these.

A later seedling to flower out of the original flask was *Z. Titanic* 'June' HCC/AOC-QOS, a superb clone. 'June' has a green background with light brown spotting and is now a very important parent in our breeding for quality, large pure green flowers with brilliant white label-lums.

The purchasing and swapping continued with *Z. Artur Elle* 'Essendon' AM-AD/AOC-VOC, *Z. Blue Eyes* 'Louise', *Z. Blackii* 'Flagstone Creek' HCC/AOC-QOS being added to the program along with a fine collection of *Promenaea* species and hybrids.

At almost the same time both Adelaide Orchids and Florafest made a crossing of *Zygopetalum* *Titanic* x *Zygoneria* *Dynamo* (subsequently registered by Adelaide Orchids as *Zga. Adelaide Meadows*). Out of these came a number of spectacular new



*Zygopetalum* *Titanic* 'Florafest Giant'



*Zygopetalum* *Artur Elle* 'Essendon' AM-AD/AOC-VOC



*Zygopetalum* *Kiwi Choice* 'Florafest' HCC/AOC-QOS





*Zygopetalum* Helen Ku ("albescens")

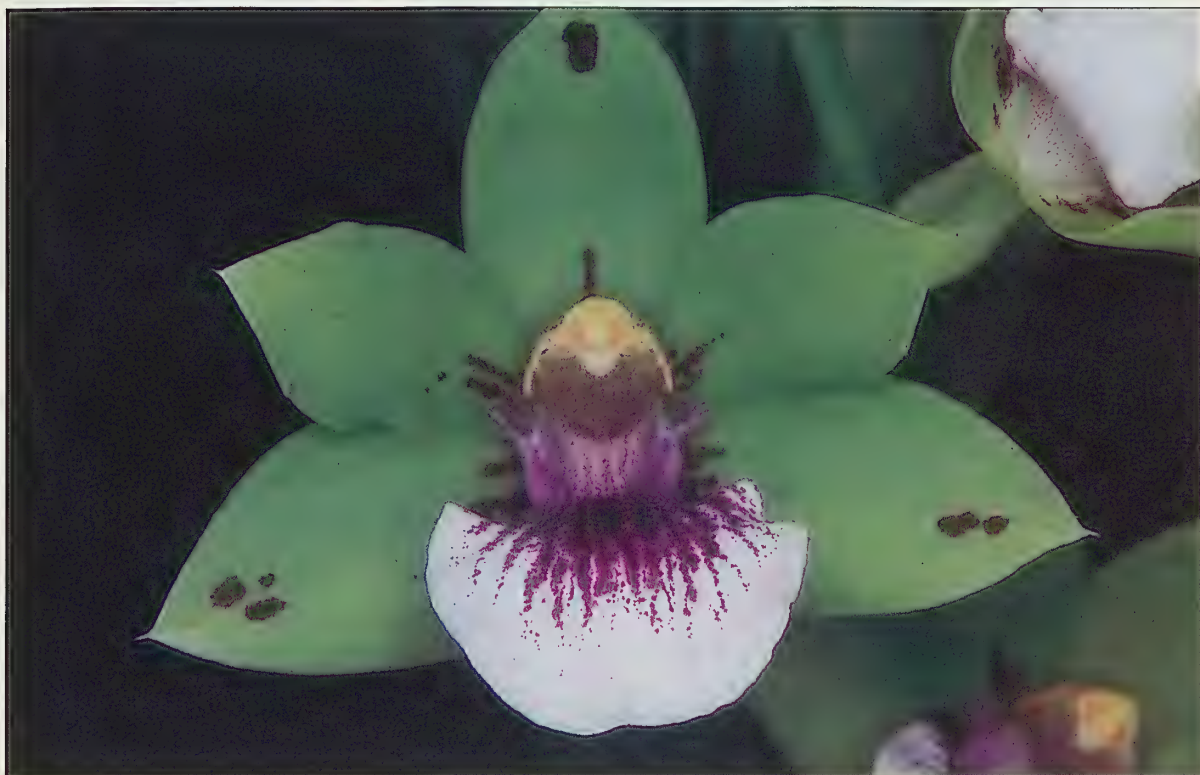


*Zygoneria* Adelaide Meadows 'Rebecca' HCC/AOC-QOS

greens: *Zga.* Adelaide Meadows 'Rebecca' HCC/AOC-QOS, 'Alison' HCC/AOC-QOS, 'Sara' HCC/AOC-QOS, 'Braeburn', and 'Emma', along with some heavily coloured clones like 'Shirley', 'Sylvia' and the almost black clone of 'Jerom'. A good feature of the *Zygonerias* is that they are warmth toler-

ant, growing and blooming freely in Hawaii. These have now been mated with *Z.* Titanic 'June' HCC/AOC-QOS and *Z.* Helen Ku 'Shirasagi' to produce even better, larger greens and by using *Propetalum* Mathina and *Alangreatwoodara* Alan with the *Promenaeas* to produce yellow and biscuit colours of award quality.

Other purchases included fine clones of *Hamelwellsara* June. These have been combined with our best *Zygopetalums*, *Zygonerias* and *Promenaeas* to produce new colours in red, purple and orange. Species within *Bollea*, *Cochleanthes* and *Pescatorea* have also been used although they appear to give very little viable seed.



*Zygoneria* Adelaide Meadows 'Sara' HCC/AOC-QOS





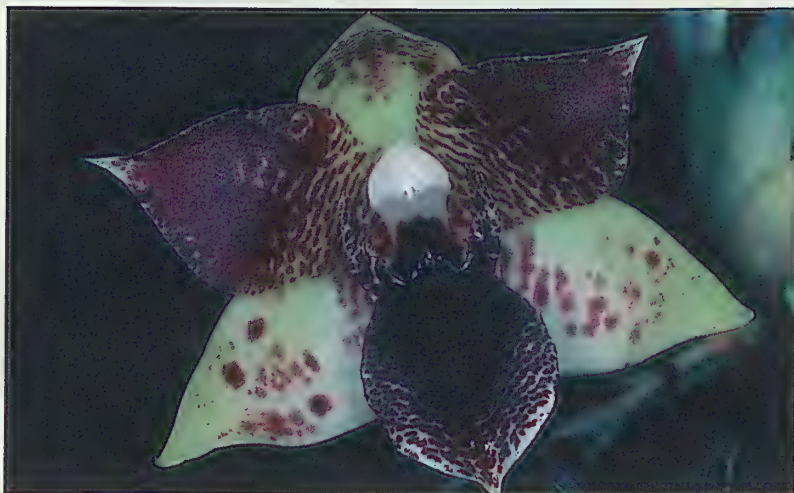
*Zygoneria* Adelaide Meadows 'Allison' HCC/AOC-QOS



*Zygoneria* Adelaide Meadows 'Braeburn'



*Zygoneria* Adelaide Meadows 'Jerom'



*Promenaea* Dinah Albright 'Splashes'

We made *Zygocolax* Pimpala (*Z. mackayi* x *Zygocolax* Elfin Jade); the first to flower was superb, very round with wide segments and large blooms. We certainly were not expecting this sort of quality. In shades of orange / brown these have now entered our quest for full round clear yellow *Zygopetalums* and have been mated with *Promenaea xanthina*, *Crawshayana*, *Florafest Gold* and *Florafest Sparkler*.

The orchid world is looking for miniatures in all genera so we decided to see what could be achieved in this genus. By using *Z. Blue Eyes* 'Louise' we hoped to produce fast growing, early blooming pot plants. We mated *Z. Blue Eyes* with *Z. Artur Elle* 'Aranel' and this produced results with the progeny blooming in 50mm pots with dark, almost black, glossy blooms in abundance, the best so far being *Z. Issy* 'Dark Gem' flowered by David Butler of Green Vista Orchids, Sydney. We have remade this cross using the superior 'Essendon' clone and it should prove to be even better colour and shape. We are also looking at the *Propetalums* for compact plants; there are avenues for another range of colours, especially dark, almost black labellums. The *Promenaeas* don't seem to reduce the length of spike or the size of blooms, they add compact growth and their different colours to the progeny. I really enjoy working with the *Promenaeas* as they are so quick to reach blooming size and make wonderful specimens, everyone should have some of these in their collections.

*Z. Kiwi Choice* 'Florafest' HCC/AOC is one of the best we have seen anywhere in the world, this is backed up by international visitors, Harold Koopowitz and Glen Barfield, who have seen it in full





*Propetalum Mathina*



*Pabstia jugosa*

bloom. This was flowered by Fred Conway from a seedling cross and it carries 9 perfectly shaped blooms of exceptional substance and these features have been passed on to the progeny flowered so far. This plant always seems to be holding pods!

In an attempt to produce a pure white "Zygopetalum", we have mated Zga. Adelaide Meadows 'Rebecca' with *Cochleanthes amazonica*, a crystal white with a huge white labellum with some purple veining and *Cochleanthes candida*. Other interesting colours have come from *Hamelswellara* June x Z. Titanic. These have a fawn background with orange

red/brown overlay on the petals and sepals with the labellum a red/purple with darker veining.

There are many other species that may be introduced, or reintroduced, at various stages of a breeding program and earlier hybrids remade considering the vast improvements in the quality of the species and the quality and colouring in the newer hybrids. However, the quest for new colours and award shapes should not be at the expense of the lovely fragrance associated with the genus.

Qualities we are looking to produce are;  
 \* Retain and/or develop new sweet fragrances.

- \* Larger flowers in a wider range of colours or combinations of colours.
- \* Multispiking 2-4 spikes per pseudobulb.
- \* Non-spotting of leaves in cold damp conditions.
- \* Compact to miniature plants with large blooms.
- \* Easy to grow and bloom plants.
- \* Plants that will tolerate a wider range of temperatures.
- \* Plants that will bloom up to three times per year.
- \* Warmth tolerance.



*Zygocolax Elfin Jade '61'*



*Zygocolax Pimpala 'Florafest'*





Hamelswellara June



Hamelswellara Aussie Quest 'New Direction'

## CULTURE TIPS

### Light

Small plants need around 80% shade. Flowering plants enjoy 40% to 60% shade.

### Water

Copious amounts during spring & summer, tailoring off in autumn as the flowers open and winter approaches. Don't let

plants dry out, keep the compost moist.

### Air Movement

This is a must. Good air circulation reduces the risk of fungal and bacterial attacks. You cannot water as you should without good air circulation. The plants will stay too wet, roots will rot and you will get fungal spotting on the leaves.

### Potting Mix

You can use a very open compost. We use a good-composted bark, from flask a fine (3-5mm) for compots to 50mm pots. For 80-100mm pots use a medium (5-10mm) grade and for larger pots, a mixture of medium and coarse grades or just coarse grade depending on your watering habits.

### Disease

Once again prevention is better than cure! Good air circulation and cleanliness will assist in keeping spraying of fungicides to a minimum. Pick up all dead leaves, weeds from the floor and regularly rake and spray the floor to stop fungi and bacteria growing. Don't bring plants with virus into your collection.

### Temperature

*Zygopetalums* will survive from around 4°C to 35°C. They must be protected from direct frost, as leaves will get black fungal marks if grown cold and wet.

### Fertiliser

We use Growforce BM7 plus Librel Calcium, Iron & Micronutrients. Early spring give three or four applications of Ex7 to kick-start after winter. Fertilizer should be given as often as possible – at least twice a week at half recommended strength. More light – more fertilizer; less light – less fertilizer!

Thanks to Gordon Bloodworth, Nev Douglas, Bill Fisher, Issy Klein and Graham Vettiger for assistance with plants/pollen and others like Dr. Ben Berliner for their assistance in our *Zygopetalum* Alliance breeding program. All photographs by the author.

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Here is your chance to bloom our fantastic *Zygopetalums*.

**Request to be placed on our free mailing list.**

**A:** *Agwa*. Kiwi Spotted 'Ingot' x *Z. crinitum* 'Loddiges': *Pepper spotted greens and golds.*

*Z. Titanic* 'LeMans' HCC x *Hmwsa*. Aussie Quest 'Red Lips':

*Large, waxy blooms chocolate with green patterns and bright red lips. Multiple flower seasons.*

*Zga. Burra* 'Blackout' x *Z. Advance Australia* 'Chocolate':

*Fast growing dark chocolate blooms with sweet perfume and striped violet lips.*

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# *Eria aporoides* Lindl.

This interesting small species is in many collections as "*Dendrobium aporoides*". In fact it is not a *Dendrobium* at all, but an *Eria*. At a glance it is easy to see why it might be thought to be a *Dendrobium* as it closely resembles many of the section *Aporum* with its fleshy overlapping leaves in two rows. However the four or five large bracts at the base of the pedicel are an obvious clue that this is not what it might seem to be. A more careful examination of the flowers reveals eight pollinia typical of *Eria* instead of the four of *Dendrobium*.

There are several synonyms including *Aporum incrassatum* Brongn., *Dendrobium aporoides* (Lindl.) Merrill and *Dendrobium brongniartii* Kraenzl. *Eria aporoides* is placed in the section *Aporodes* Schltr. This is a small section with about 4 or 5 species in the area from the Philippines to New Guinea. They have long creeping rhizomes and erect stems with equitant leaves. The single flowers, with bracts at the base of the pedicel, and the elongate stems indicate a close relationship to the section *Cylindrolobus* of *Eria*.

*Eria aporoides* is restricted to the Philippines where it occurs in several locations at sea level to 1000 metres altitude. The stems grow to about 40 cm long and are covered with fleshy overlapping leaves about 1.5 to 3.5 cm long. The single fragrant white flowers are borne in the leaf axils on a pedicel about 5 to 8 mm long. There is a group of 4 or 5 orange bracts at the base of the pedicel. The flowers last one (or rarely two) days and are about 1.2 to 1.5 cm across. Flowering occurs in several bursts throughout the year with an emphasis on spring in cultivation.



The long scrambling rhizomes make this species best suited to a basket, wide shallow pot or slab. It grows in warm to intermediate conditions and appears to do

well in bright light, high humidity and good air movement. It should be watered throughout the year, although a slightly drier period in winter may be beneficial.

## Further reading

\* Schlechter, R., (1982). *The Orchidaceae of German New Guinea. (1911-14 Die Orchidaceen von Deutsch Neu Guinea)*. Translation of the German text of R. Schlechter, ed D.F. Blaxell, transl. H.J. Katz and J.T. Simmons, Australian Orchid Foundation, Melbourne.

\* Seidenfaden, G., (1982). *Orchid Genera in Thailand X Trichostia Blume and Eria Lindl. Opera Botanica* 62: 1-157.

\* Valmayor, H.L., (1984). *Orchidiana Phillipiniana* 2 Vols. Eugenio Lopez Foundation, Manila.

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- 2. 4-6 August:** Gosford Orchid Spectacular or Royale Orchids Open Weekend
- 3. 9-10 September:** Royale Orchids Open Weekend & Tropicool Festival.  
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# Grammangis ellisii

by Mick Keith

Imported numerous plants of *Grammangis ellisii* and *G. fallax* plus a host of other species into my Quarantine House from my suppliers in Madagascar two years ago. The plants labelled as *G. fallax* have been the first of the genus to flower. This genus is obviously related to *Grammatophyllum*, a group of robust orchids that grow well for us here in Townsville.

This plant was awarded a CBM (Certificate of Botanical Merit) late last year by the judging panel here in Townsville, as *Grammangis fallax*. This was the first flowering in this part of north Queensland and a lot of discussion was held between local growers and judges, as this was the first time they had seen this species in bloom. A check was made to see if other plants had been awarded in America, I think four were awarded but all were *G. ellisii*, with no mention of *G. fallax*.

Some said my plant was *Grammangis ellisii* and some said it was *G. ellisii* var. *fallax*. One of the local growers made a phone call to Murray Shergold of Easy Orchids in New South Wales to ask what they knew about *Grammangis*. The grower was told that in Madagascar the suppliers said that *G. fallax* had all green pseudobulbs and *G. ellisii* had black or brown pseudobulbs. Hardly a scientific way for differentiation!

My plant carried two inflorescences, which came from between the leaves.

They carried a total of 54 flowers and 13 buds. The dimensions of the individual flowers were 53x58mm; the plant was 66cm high from the base of the plant.

After talking to him on the phone, I sent photographs of my plant (included with this article) to David Banks for his opinion. He advised that my plant was in fact *Grammangis ellisii*. *Grammangis fallax* is now generally considered a synonym of this variable species, which is endemic to Madagascar. David Du Puy, Phillip Cribb, Jean Bosser and Johan & Clare Hermans confirm this in their recent publication, *The Orchids of Madagascar*. They also mention another closely related species, *Grammangis spectabilis*. Photographs of both these species appear in this book.

I grow my plants under 70% sarlon shadecloth with my cattleyas. Under these conditions the plants do not burn or go yellow. The potting material I use is fine quinkan gravel mixed with perlite and peat moss and seedling size Aussie Bark, together with a handful of dynamic lifter all mixed together. It is planted in an 8" plastic pot at present. I do not think they like to be disturbed, and would look great as specimen plants. They are watered at the same time as my cattleyas.

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# Len Lawler Honoured by the Australian Orchid Foundation

By Bill Lavarack

On Sunday 5th December Len Lawler was presented with an Award of Honour by the Australian Orchid Foundation (AOF). Len has been instrumental in the presentation of similar awards to other prominent orchid personalities such as Alick Dockrill, Ken MacPherson and Jack Wilkie so it was most appropriate that he should now be a recipient.

Orchids have been Len's passion for almost half a century and his contribution to the study and conservation of Australian orchids is well known to his many friends and to many who have never met him. His scientific achievements before he retired to the Atherton Tableland included the epic publication *Ethnobotany of the Orchidaceae*. This was published in Joseph Arditti's *Orchid Biology Reviews and Perspectives volume 2* and remains the definitive work on the subject. This paper is 123 pages long and at the end there are over 1000 references – a clear indication of the work that went into its making.

Since then Len has worked with many local orchid societies from Cooktown to Brisbane, giving talks, leading field trips hunting for rare and new species and assisting societies and individuals with information and in many other ways. He has always been a staunch advocate of the AOF and was the inspiration behind the AOF's orchid seed bank and was its first curator, setting it on the successful course which it now follows.

In recent years Len has become known for his regular contributions to *The Australian Orchid Review* entitled "Looking Back", in which he highlights events described in old copies of the



Bill Lavarack presents Len Lawler (left) with his award on behalf of the Australian Orchid Foundation

*Australian Orchid Review*. He has also produced some interesting historical research on orchid identities such as Jack Wilkie and Alf Glindermann.

Dr Bill Lavarack made the presentation in the garden of Geoff and Jacqui Stocker at Malanda on a sunny morning. There were guests from many north Queensland orchid societies from Mossman to Townsville, many of whom paid tribute to Len and his work. Notable among the guests were orchid experts Alick Dockrill and Bruce Gray, orchid artist Mair Swan and numerous

local personalities including Noel Grundon, Lex Barton, Trevor Ford, Ray Robinson, Min Korsman, Wal and Jean Nicholson, Joan Hedges, Don MacPherson, Ron Savage, Jim Allen, Joe Mackin, Barbara Landski and Enid Collins. Everyone was pleased to see Len looking healthy after his serious operation earlier in the year.

The citation for the Award of Honour to Leonard Joseph Lawler reads:

- \* That he was the first curator of the Orchid Seed Bank, which is now often quoted as a major conservation initiative of the AOF.
- \* That he gained his fellowship of the Australian Institute of Medical Scientists with a thesis on "Biochemical Investigation of Australian Orchidaceae".
- \* That he served on the AOF Research Committee and was Chairman for a period.
- \* That his paper "Ethnobotany of the Orchidaceae" remains the definitive work on the subject and consists of 123 pages of enormous detail on uses for food, medicines, decoration and as a source of fibre. He is recognised as a world expert on the topic.
- \* That he has written over twenty papers on scientific topics relating to orchids.
- \* That he has been deeply involved in the study of North Queensland orchids, recording the distribution of rare species.
- \* That he has collected specimens of new and interesting orchids which were made available to scientists and herbaria.
- \* That he discovered a new species of *Malaxis* near Rossville, south of Cooktown, and that it was subsequently named in his honour: *Malaxis lawleri*.

\* That he is held in great respect and high esteem by the orchid fraternity throughout Australia and the world. Previous recipients of the AOF Award of Honour are;

George Henry Slade AM, William "Bill" Murdoch, Gerald McCraith AM, Alick W. Dockrill, Kenneth A. MacPherson, John Henry Wilkie, Dr. John H. (Jack) Warcup and Walter Thomas Upton.

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# My Top Orchid Sites on the Internet

by Colin Hamilton

What is a "Top Orchid Site"? There are many different answers to this question and it really depends on what one is looking for. If you are a species addict for example, you can find any number of nurseries worldwide with catalogues (I have not included these in this review.) or you may just be interested in viewing photographs of species orchids, especially those unfamiliar to you. Others will find solace in reference material, news of coming shows and conferences, cultural notes or adventure stories. What I consider a "Top Orchid Site" probably will please some and offend others. Perhaps I look from a different perspective. As the former Editor of *Orchids Australia*, I give consideration to the layout of the site and its pages, ease of navigation, colour coordination and harmony. It must be pleasing on the eye and easy to read – you wouldn't believe the number of web sites I have seen with black type on a dark background! It should also load quickly. The site should receive regular updating and checking that links to other sites still work.

Surprisingly most of my choice sites are the work of dedicated amateurs. I guess I might be biased but since I gave birth to the first Australian orchid web site in August 1995 and still develop and nurture it for the Australian Orchid Council Inc. and their bi-monthly magazine *Orchids Australia*, I would have to sideline [www.orchidsaustralia.com](http://www.orchidsaustralia.com) for this exercise. Let me just say that it has developed beyond my original vision and today is a far cry from that first attempt. The scope has expanded our own content and the links that are made from the site are there because they are considered to be a valuable reference source and enhance the quality of our site. I do not believe, as some web site owners seem to do, that one should link every site one can find. The Australian Orchid Council Inc. will reach its 40th anniversary later this year and is considered to be the peak orchid body in the country, so it was with some pride that it led the way into this exciting electronic medium.

So to my other selections – these generally are not listed in order of preference:

## Papua New Guinea Orchid News – [www.orchidspng.com](http://www.orchidspng.com)

I consider this site, the handiwork of Wolfgang Bandisch (an amateur), to be top of the list. It meets all my criteria including regular updating and is one of the most beautifully presented sites on the Internet – orchid or otherwise. Here you can almost smell the tropical forests and hear the Birds of Paradise. It specialises in the orchids of Papua New Guinea and has a very well planned and extensive photo reference library. There are also geographical and historical notes on the country and its people.

Not surprisingly it is a very popular site to visit. The site is hosted offshore due to unreliable electricity and telecommunications. It also has a mirror site in Germany. This site exudes Class!

## Internet Encyclopaedia of Orchid Species – [www.orchidspecies.com](http://www.orchidspecies.com)

Jay Pfahl of Florida has assembled a photo reference library of over 2100 species covering more than 340 genera in an amazingly short time. This too is a labour of love as Jay is actually a jeweller. I have watched this site develop. Jay did a lot of work himself in the early stages and when people saw what a marvellous resource it was becoming, offers of photos came streaming in from around the world, including David Banks – the Editor of this magazine. I cannot vouch for the validity of the taxonomy – that is for others. The site is not the most lavish but its value is in its content. Unfortunately much of the text is unnecessarily large but this is being addressed progressively.

## The Orchid Mall – [www.orchidmall.com](http://www.orchidmall.com)

Where would be without Carson E. Whitlow's huge non-profit site with hundreds of links to orchid sites around the world. It isn't the most glamorous site I've seen but it has a link to just about every type of site you would wish to find. Being USA based it is predictably heavily loaded with American links. It is great for finding nurseries, societies, literature and many other items. If travelling and intend buying orchids, the Orchid Supplies section is a great place to start your advance search. There is also links to orchid events worldwide, so you might like to visit one or more in your travels.

## The Orchid House – <http://retirees.uwaterloo.ca/~jerry/orchids/names.html>

Jerry Bolce has a personal site on the University of Waterloo in Ontario, Canada, which has a host of information but one unique feature is the list of Orchid Genus Names, whether natural or man-made. It is a very long list, as you can imagine, and the type size is a bit small but it is an easy source to find out what those damned-fangled abbreviations mean and what genera constitute that particular man-made genus.

## Australasian Native Orchid Society (ANOS) – [www.anos.org.au](http://www.anos.org.au)

Graeme Bradburn has developed this site into something a little different. Obviously it promotes the activities of ANOS its quarterly journal *The Orchadian* (again edited by David Banks), and the 4th ANOS Conference to be held in early October this year. There are sections of News updates for the organization, conservation activities, photos and short details of Australian native

species, and a comprehensive list of ANOS branches around Australia. What makes this latter section interesting is the inclusion of the clubs badges with their details. I have watched Graeme develop this site over a few years and, like the *Orchids Australia* site, has improved in quality and content.

## Orchids of Provence – <http://perso.wanadoo.fr/pm.blais/index.anglais.html>

This site, the handiwork of Pierre-Michel Blais, is barely two years old and offers something quite different. The above URL will take you direct to the English version. The main site is in French. It provides information "To Know Provence and Mediterranean Orchids". This has extensive reference sections. One of the most unusual links is 'Botanical Gardens in the World', and 4403 links to worldwide orchid sites. Now before you think, "Ah, but at the start you said....", what Pierre-Michel has done is to organise the links under country names. If you click on Australia you will get quite a good list. However, there are some unusual links – click on Iceland and you will find information on a few of their six native terrestrial orchids.

## Not So Green Thumb – [www.NotSoGreenThumb.org](http://www.NotSoGreenThumb.org)

This is a site more for the computer orchid enthusiast rather than the serious orchid grower, but it is a fun site. Yoshi Nomura of San Jose has assembled a virtual orchid collection and has photographs of his orchids, description of his photographic and scanning equipment, and a selection of free orchid murals and computer screensavers featuring orchids which is sure to draw a lot of attention once the news spreads.

## And now for something completely different – orchid cookery! [www.arts-culinaires.com/cuisine/faceties/default.asp](http://www.arts-culinaires.com/cuisine/faceties/default.asp)

Ever thought about using orchids in cooking? I don't mean just as a decorative garnish, but IN cooking. The site is in French but it is a real curiosity and anyone with a little knowledge of French (as we were taught in school) will be able to muddle through, if you are game to sacrifice your orchid flowers in this way! I have yet to see *Canaërd aux orchidees Laelia anceps* or *Cannelloni aux orchidees Paphiopedilum Maudiae* on any restaurant menu.

As you can see, your computer can give you access to all manner of information on the Internet, some serious and some providing a lot of fun. It is a great way to spend a rainy day or if you have air-conditioning, a hot summer's day.

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- \* Conservation of threatened species.

A keynote speaker is being organized to open each theme session. A list of the papers and their authors as we currently have them are given below for your information.

Helen Richards will open the conference on Friday morning when she will deliver her paper on the conference theme, "Native Orchids, Our Natural Heritage". Helen is a Life Member of ANOS Vic Group, a member of various other ANOS groups, and is a director of the Australian Orchid Council. Helen may be known to many of you through her regular presentations at orchid group meetings around Australia and at previous ANOS conferences. In fact, just looking at the list of papers she has presented since she joined ANOS Vic Group in 1974 will indicate just how popular a speaker she is. It is fair to say that her talks are always well attended, enjoyable, and informative. You can expect this one to follow in the same mould as it fits squarely with her aim 'to enlighten people on the pleasures and importance of the cultivation of Australian terrestrial orchids with an emphasis, where appropriate, on conservation'. Her enthusiasm is obvious and infectious.

Time is running out for the Early Bird registration discounts, you need to get your registration form and payment in by 31st March. See the Orchadian of December 1999 for prices or visit our web site at [www.anos.org.au/conference](http://www.anos.org.au/conference). Alternatively, contact our Conference Secretariat at PO Box 2152, Templestowe Heights Vic. 3107 (ph 03 9850 9867). We look forward to seeing you there, you will be disappointed if you miss this one.

Speaker	Topic
Gary Backhouse	Victoria's orchids and habitats
David Banks	The genus <i>Dockrillia</i> and its use in hybridisation
Andrew Batty	Conservation techniques for threatened orchids in WA
Heinrich Beyrle	<i>Thelymitra</i> hybrids
Colin Bower	Using specific pollinators to discover new orchid species
Paul Carver	Creating artificial orchid environments
Andre Cleghorn	to be announced (flasking)
Ted Elgood	<i>Sarcocylus</i> culture
Michael Harrison	<i>Bulbophyllum</i> species of Australia
Colin Knight	Orchid conservation programs at Melbourne Zoo
David Jones	Systematics of the genus <i>Diuris</i>
Les Nesbitt	Ten ways to save rare orchid species
Trevor Porteous	Orchid Organiser
Helen Richards	Native orchids - Our Natural Heritage
Frank Simpson	Cultivation and hybridisation of <i>Sarcanthinae</i> orchids
Tony Slater	Can pollination biology be a taxonomic character?
Darryl Smedley	Australasian <i>Bulbophyllum</i> species
Phillip Spence	<i>Latouria</i> Dendrobiums and their hybrids
Greg Steenbeeke	Distribution and conservation of orchids in northeast NSW
Geoff Stocker	Prospects for cool-tolerant <i>Spatulata</i> ( <i>Dendrobium</i> ) hybrids
Wolfgang Strube	Sanitation procedure for orchid culture
Malcolm Thomas	Cultivating terrestrial orchids
James Todd	Recovery of threatened orchids in Victoria
Wayne Turville	Stars and Stripes - spectacular <i>Dendrobium</i> hybrids
Eric Wilde	to be announced (growing Specimen plants)

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- Masd. Peach Fuzz (remake) \$6

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## Attention AOR readers and Orchid Societies

"This and That" is a regular feature of the Australian Orchid Review and readers and Orchid Societies are invited to contribute any small news items of interest to Orchid lovers.

The deadline for items can be found on page 3.

Address all correspondence to the Editor: "This and That", Australian Orchid Review, 14 McGill Street, Lewisham, NSW 2049.

## Boolaroo Orchid Society Inc. 1956 – 1999

During 1999, the members of Boolaroo Orchid Society Inc. have been celebrating our 40th. Year. Each of our three shows displayed around the theme of "40th. Anniversary" and on October 27, we concluded the year's celebration with a formal dinner.

Ray Clement, accompanied by his wife

Lorraine was the guest of honour with Marie and Fred Bradd represented the Orchid Society of New South Wales. The Society took advantage of the formal occasion to present Life Membership to well known grower and nurseryman, Hughie Webb.

Back on 13th July 1959, 16 people met to discuss the formation of Boolaroo Orchid Society. By the end of 1959 there were 43 members and today there are about 140 members. The Society became incorporated in 1988.

The Society has the reputation of being one of the most successful and friendliest in our region and we look forward to another forty years of success. – **Bernice Burgess**

## Orchid Market Day

The Maroondah Orchid Society is sponsoring its first Orchid Market Day to be held on Sunday 30 July, 2000 at the Blackburn North High School, cnr Williams Road and Springfield Road, Blackburn North, Victoria.

Up to 50 trading tables will be staged by commercial and private growers offering orchids a wide range of genera for sale in

sizes from flask to flowering. A range of glasshouse accessories will be on display and sale.

Several Victorian orchid societies will also be operating tables on behalf of their members selling divisions of privately owned plants.

The event opens at 9.00am and closes at 4.30pm.

Anyone wishing to hire tables may do so. At the time of this release, only four tables were uncommitted and once those are booked, booking will be accepted for cancellations only. Hiring fee for each eight-foot table is \$25 with a limit of three.

Admission to the market will be \$2 per person.

Refreshments will be available all day.

For further details phone Bill Johnson (03) 9782 2668 between 9.00am and 9.00pm.

## Orchid Conference

The South and West Regional Orchid Conference will be hosted by the Eurobodalla Orchid Club in Batemans Bay on October 5 and 6, 2001. (Further details as they become available.)

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## NEW PRODUCT – Dendrobe Knockout

A new foliar spray Dendrobe Knockout has been released by Wonder Grow Products, a division of Absorba Stone. The spray has been developed over a long period by Alex Wrigley and Steve Graham, who realised that a safe and effective product was needed to deal with the orchid industry's problems with the Dendrobium Beetle and the Red Spider Mite.

Alex and Steve decided on an organic spray, and after much trial and error developed Dendrobe Knockout. During their trials they found that insects do not like bitter-tasting foliage and so developed a bitter organic extract which was an ideal foliar spray. The plant takes up the spray systemically to the epidermal cells and converts it to a much more unpalatable taste than it already has. All insects including the Dendrobium Beetle detest this bitter taste.

They also found that insects are averse to sharp points piercing their bodies so they introduced microscopic sharps (which are harmless to humans) to the organic extract.

This made the spray lethal to the beetle and larvae – when captured and sprayed with Dendrobe Knockout they usually died within three minutes. The result, claim the makers, is that the beetles either die or move to another plant which hasn't been sprayed; the larvae just shrivel up and no longer pose a threat to the orchid plant.



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	per 30m roll		per 30m roll	
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# New Orchid Hybrids

JUNE/JULY/AUGUST/SEPTEMBER 1999 REGISTRATIONS

Supplied by the Royal Horticultural Society as International Registration Authority for Orchid Hybrids

NAME	PARENTAGE	REGISTERED BY (O/U = Originator unknown)
<b>AERIDOVANDA</b> Soroa Coquette Thai Hollyhock	<i>Aer. lawrenceae</i> x <i>V. Kasen's Delight</i> <i>V. Manuel Torres</i> x <i>Aer. lawrenceae</i>	Soroa(Patsanan) Motes(O/U)
<b>ALEXANDERARA</b> Amy's Gold Andim	<i>Mchna. Pagan Lovesong</i> x <i>Oda. Glyndebourne Glida</i> <i>Wils. Intermezzo</i> x <i>Brs. Lance</i>	L.Sanford A.Schilliger
<b>ALICEARA</b> Florida Boy Janey's Flower Patokee Boy	<i>Alcra. Hawaiian Delight</i> x <i>Onc. crispum</i> <i>Mtssa. Cairns</i> x <i>Onc. anthorhynchum</i> <i>Mtssa. Erachne</i> x <i>Onc. Nassau</i>	Everglades W.A.Baker Everglades
<b>ANGBAECUM</b> Hillman's Last	<i>Angom. leonis</i> x <i>Angom. superbum</i>	J.Sweeney(F.Hillerman)
<b>ANGULOAO</b> Colombe Elizabeth Eyles Isabelle Michael Tibbs Victoire	<i>Ang. Rolfei</i> x <i>Ang. clowessii</i> <i>Ang. virginalis</i> x <i>Ang. hohentohli</i> <i>Ang. clowessii</i> x <i>Ang. virginalis</i> <i>Ang. Rolfei</i> x <i>Ang. hohentohli</i> † <i>Ang. clowessii</i> x <i>Ang. eburnea</i> †	H.Oakeley H.Oakeley H.Oakeley(O/U) H.Oakeley(Vach. & Lec.) H.Oakeley(Vach. & Lec.)
<b>ANGULOCASTE</b> Francoise Genevieve Omega Philippe	<i>Ang. Isabelle</i> x <i>Lyc. Luciani</i> <i>Lyc. Rachel</i> x <i>Angest. Sanderae</i> <i>Angest. Tudor</i> x <i>Lyc. Shoalhaven</i> <i>Ang. clowessii</i> x <i>Lyc. mitchellii</i> †	H.Oakeley H.Oakeley T.Goshima(K.Murakami) H.Oakeley(Vach. & Lec.)
<b>ARANTHERA</b> Lim Hng Kiang	<i>Arach. Maggie Oei</i> x <i>Ren. Kalsom</i>	Singapore Bot.Gdtns
<b>ASCOCENDA</b> Banjong Violet Charles Ochipa Children World Crownfox Gold Dust Crownfox Majestic Emil David White Hans-Joachim Krause Lava Flow Red Sunset Soroa's Gem Soroa Sky Soroa Splendor Thumbelina Udornchai Delight Vonnie Wills	<i>V. Manuvadee</i> x <i>Ascda. Yip Sum Wah</i> <i>V. tessellata</i> x <i>Ascda. Guo Chia Long</i> <i>Ascda. Dechjan</i> x <i>V. Dawn Nishimura</i> <i>V. denisoniana</i> x <i>Ascda. Virochanan Gold</i> <i>V. Antonio Heal</i> x <i>Ascda. Duong Porn</i> <i>Ascda. Bangkoktiantan Gold</i> x <i>V. denisoniana</i> <i>V. Kutiana Gold</i> x <i>Ascda. Thai Snow</i> <i>Ascda. Lani Bird</i> x <i>Ascda. Meda Arnold</i> <i>Ascda. Key West Sunset</i> x <i>Ascda. Red Glow</i> <i>V. Star Bennett</i> x <i>Ascda. Peggy Foo</i> <i>V. Fay Sapphire</i> x <i>Ascda. Yip Sum Wah</i> <i>V. Karulia</i> x <i>Ascda. Peggy Foo</i> <i>Ascda. Katherine Candy</i> x <i>V. Kasen's Delight</i> <i>Ascda. Fuchs Harvest Moon</i> x <i>Ascda. Bangkoktiantan Gold</i> <i>Ascda. Meda Arnold</i> x <i>Ascsm. Sagarik Gold</i>	B.Mianmanus R.F.Orchids How Wai Lai R.F.Orchids J.Majewski(R.F.Orchids) Soroa(Patsanan) A.Laufenburger(Motes) J.Majewski T.Cox(Breckknridge) Machiko Ogawa Memorable Occasion Soroa(Patsanan) Soroa(Patsanan) Soroa(Patsanan) Katherine Orch.(M.Busato) P.Kran Som Prot Katherine Orch.(O/U)
<b>ASCOCNOPSIS</b> Sweet Georgia	<i>Phal. Ponce es Ponce</i> x <i>Asctrn. curvifolium</i>	Motes
<b>ASPASUM</b> Kajia Kristiansen	<i>Aspsm. Mariann Kristiansen</i> x <i>Onc. crispum</i>	A.Schilliger
<b>BAKERARA</b> Batty Boop	<i>Alcra. Ursula Rehr</i> x <i>Odcdm. Blg Mac</i>	W.A.Baker
<b>BENLLARA</b> Lightning Ridge	<i>Blira. Diana Dunn</i> x <i>Vuyli. Cambria</i>	Trowsena(U.Woodward)
<b>BEALLARA (continued)</b> Loo Lady White Lady	<i>Blira. White Lady</i> x <i>Brs. Edviah Loo</i> <i>Mtssa. Vino</i> x <i>Oda. Memoria Helen Scholle</i>	W.A.Baker(JEM) W.A.Baker(JEM)
<b>BRASSIA</b> French Web Golden Web	<i>Brs. chloroleuca</i> x <i>Brs. rhizomatosa</i> † <i>Brs. thrysodes</i> x <i>Brs. lanceana</i>	Lehua(O/U) Lehua(JEM)
<b>BRASSOCATTLEYA</b> DiPozzi Cannero Dolly Bird Fortune Maker Utuado Summer Shower	<i>B. flagellaris</i> x <i>C. mossiae</i> <i>C. Earl</i> x <i>Bc. Liano</i> <i>C. Rose Drop</i> x <i>Bc. digbyana</i> <i>C. Claesiana</i> x <i>Bc. Pastoral</i>	FI.Edmundo Pozzi Don Massey Orch.by Eli T.Vajrabhaya
<b>BRASSOEPIDENDRUM</b> Joy Black Selsal's Galaxy Stars	<i>Epi. mariae</i> x <i>B. cucullata</i> <i>Bepi. Phoenix</i> x <i>B. nodosa</i>	A.Black J.& I.Selles(O/U)
<b>BRASSOLAEIA</b> Sarah Black	<i>B. nodosa</i> x <i>L. lundii</i>	A.Black
<b>BRASSOLAEIOCATTLEYA</b> Aussie Sunray Tnt Banjong Chompu Banjong Gold Bay Coral Busadee Brunswick Delight Brunswick Fantasy Brunswick Surprise California Pink Lode Cosmo-Cynbone Cruzan Tango Don's Blossom Dress Circle Exotic Apricot Florite Yaboko Forefront George King D'Or George Suzuki Haruko Kanizaki Hello Mauricio Bltencourt High Teen Hugh Yoshida Island Glow Island Gold Jose Barreto Filho King Galaxy Lena's Gold Machiko Ogawa Mella Memorable Occasion Memoria Don Herman Memoria John Odom Memoria Sam Merrypor Memoria Two Harrys Michiko Ishikawa Millennium Magic Mishima Emperor Mishima Sunbeam Mishima Sunburst Mysterious Charm Mysterious Fantasy Mysterious Jewel Mysterious World Noble's Bruno Bruno Rincón Borincano Sound Advice South Vision	Blc. California Girl x Blc. Erin Kobayashi Blc. Banjong Crimson x Blc. Goldenzelle Blc. Banjong Topaz x Blc. Goldenzelle Lc. Mini Purple x Blc. Kinza C. Queen Srikhit x Blc. Prepassom C. Aran Powder Puff x Blc. Dream Trader Blc. Mount Sylvan x Blc. Sylvia Fry Blc. Sylvia Fry x Blc. Burbank Mount Horace Blc. California Girl x C. Ioddesesi Blc. Cynthia x Lc. Wybone Blc. Dan O'Neil x Blc. Orange Nuggett Lc. Stephen Oliver Fouraker x Blc. Sylvia Fry Blc. Ranger Six x Blc. Mount Sylvan Blc. Eve Marie Barnett x Blc. Fortune Lc. Meadow Gold x Blc. Don De Michaels Lc. Bonanza x Blc. Hertha Fry Blc. George King x Blc. Bouton D'Or Lc. Walaue Sunset x Blc. Takeo Yamaguchi Blc. Jeremy Island x Blc. Fred Stewart Blc. Haw Yuan Moon x Lc. Carolina Frota Blc. Pastoral x Lc. Teen's Blc. Francis Y. Hoshino x Lc. Belle of Celle Blc. Island Charm x Lc. Oglade's Glow Blc. Peach Cobbler x C. Chocolate Drop C. trianaei x Blc. Kewee Blc. Toshie Gold x Blc. Walaue Queen Blc. Lucky Man x Blc. Cornerstone Lc. Roy Finley x Bl. Richard Mueller Blc. Joan Sutherland x Blc. Ruth Griffin Blc. Memoria Ralph Placentia x Blc. Royal Reason Blc. Rockwell x Blc. Toshie Aoki Blc. Minerva Manuel x Blc. Golden Embers Blc. Orange Show x Blc. Pollyana Blc. Catamaran x C. Horace C. Lynn Spencer x Blc. Mount Sylvan Blc. Crown Princess Masako x C. Ruth Gee Blc. Anna Kee x Blc. Goldenzelle Blc. Okami x Lc. Albert Hollingsworth Lc. Harold Carlson x Blc. Pamela Hetherington Blc. Teng x Blc. Don De Michaels Blc. Bryce Canyon x Lc. Prism Palette Blc. Emily Shupe x Lc. Asahi Blc. Chocolate Drop x Blc. George Suzuki Lc. Summerland Girl x Blc. Orange Nuggett Lc. Susan Holgun x Bc. Liano Blc. Herons Ghyll x Lc. Ovaton	Taylor Made Orch.(L.Topp) B.Mianmanus B.Mianmanus Golden Blossom B.Wechsavarn(T.Orchids) G.Vallance(Aranbeem) G.Vallance(O/U) G.Vallance H.& D.Abe(R.Takafuji) Kokusai Coqui(O/U) Don Massey Don Massey Exotic Orchids(W.Biletz) T.Takeda Don Massey R.West(Red McEllan Co.) S.Barani(G.Suzuki) AtsukaOrch.Gons.(H.Nishiguchi) S.Barani Suwada Orch. W.K.Nakamoto Long Ute[USA] L.Barreto Orch.by Eli J.Parker(O/U) Atsuka Orch.Gdtns. Coqui Don Massey Stewart Orch. Odom's(Carmela) M.Edgerton(G.J.Williams) R.& M.Gerber(Miyamoto) M.Ishikawa Don Massey Hanajima's Hanajima's Hanajima's M.Hotta M.Hotta M.Hotta M.Hotta S.Barani R.Sobrinho Don Massey Fuji Nurs.



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<b>BRASSIAELI/OCAITLEYA (continued)</b>			<b>CYMBIDIUM (continued)</b>		
Sweet Margaret	C. Mary Ann Barnett x B/c. Sylvia Fry	E.F. Smith (G.J. Williams)	Boogie Woogie	Cym. Via Mar Tranquilla x Cym. Mariner	L. Batchman
Toshie Gold	B/c. Toshie Aoki x B/c. Miya's Gold	J. Parker (O.U.)	Carlie Chapman Catt	Cym. Terman x Cym. Mombon	Orchids Limited Int. (Braemar)
Turambeat	B/c. Turandot x L/c. Drumbeat	S. Barani	Cat's Meow	Cym. Autumn Crisp x Cym. Mitsuha Okada	Everglades
Ultimate Dream	B/c. Joan Sutherland x L/c. Susan Holguin	Don Massey	Ceritos Sunrise Sunset	Cym. Pink Veil x Cym. Great Katy Kawano	H. Chun
<b>CATAMODES</b>			Cherry Eye	Cym. James Weirle x Cym. Yoda Flame	Merione
Jumbo Doll	Morm. badium x Cism. Grace Dunn		Chocolate Flame	Cym. Solana Beach x Cym. Frosty Nights	Townes (J. Woodward)
Jumbo Sweet	Cism. Rebecca Northern x Morm. Uncia		Christmas Snow	Cym. Frosted Pearl x Cym. Via Mar Tranquilla	Santa Barbara
Jumbo World	Cism. Grace Dunn x Morm. burchinator		Cool Cat	Cym. Lady Bug x Cym. Dainty	L. Batchman
<b>CATAMOCHES</b>			Dainty Bug	Cym. Bullbow x Cym. Ruby Eyes	L. Batchman
Jumbo Valor	Cism. Rebecca Northern x Cym. chlorochilon		Dark Eyes	Cym. Rolling Stone x Cym. Remy Pepper	L. Batchman
Jumbo Warrior	Cism. Grace Dunn x Cym. Jumbo Dragon		Dark Spirit	Cym. Devon Lord x Cym. Ruby Eyes	L. Batchman
<b>CATASETUM</b>			Devon Ruby	Cym. deoraium x Cym. Nardatus	L. Batchman
Hilltop's Dngbat	Cism. tenebrosus x Cism. Thinger Dinger		Dorothy Prophecy	Cym. Claude Payer x Cym. Robert Rowe	Santa Barbara
Jumbo Carnival	Cism. Grace Dunn x Cism. Penang		Dream Chorus	Cym. Autumn Day x Cym. Rose Armstrong	L. Batchman (Rowe)
Jumbo Delight	Cism. Rebecca Northern x Cism. barbatum		Drifting Snow	Cym. Showoff x Cym. Fred Stewart	Mogami Ran-en (S.U.)
Jumbo Eden	Cism. Rebecca Northern x Cism. barbatum		England's Rose	Cym. Fifi x Cym. Western Movie	L. Batchman
Jumbo Glory	Cism. Bound for Glory x Cism. Orchidglade		Everbloom	Cym. Tendo Love x Cym. Golden Elf	H. Chun
Jumbo Heart	Cism. Rebecca Northern x Cism. Orchidglade		Faint Hope	Cym. Dawn Princess x Cym. Tellys	Everglades
Jumbo Lace	Cism. Rebecca Northern x Cism. fimbriatum		Fairy Show	Cym. Rector Fairy x Cym. Showoff	L. Batchman
Jumbo Polar	Cism. Rebecca Northern x Cism. viridifolium		Fancy Love	Cym. Rector Love x Cym. Fancy Free	L. Batchman
Jumbo York	Cism. Rebecca Northern x Cism. Orchidglade		Fannie Mae	Cym. Run Ruler x Cym. Eborac Ladyland	Orchids Limited Int.
<b>CATLEYA</b>			Flash Dance	Cym. Via Dal Playa x Cym. Gilmesh	L. Batchman
Canto en Garona	C. Earl x C. Interplossa		Floralest's Orange Gem	Cym. Astral Midlight x Cym. Coral	Floralest
Chris McHenry	C. boweringiana x C. intermedia		Florida Fun	Cym. Poshil x Cym. Claude Pepper	Everglades
DIPozzi Milano	C. lodigiesi x C. Pao da Acucar		Forever Dream	Cym. exobur x Cym. Wallara	Mogami Ran-en (S.U.)
DIPozzi Tiziano	C. Pao da Acucar x C. intermedia		Forever Love	Cym. erythryum x Cym. Rose Armstrong	Mogami Ran-en (S.U.)
Doris McGraw	C. Corbisean Skies x C. Dupreana		Foxy Lady	Cym. Autumn Day x Cym. Via Mar Tranquilla	Mogami Ran-en (S.U.)
Dubells	C. Duboisia x C. Tribells		Francis Parker	Cym. Touchstone x Cym. Karen Pepper	L. Batchman
Primatira	C. Prima Donna x C. iranaei		Free Bird	Cym. Baltic Meadow x Cym. Mary McLeod Bethune	Orchids Limited Int. (Rudvalis)
Tipper Gore	C. Pearl Harbor x C. General Patton		Frosty Nights	Cym. Green Glass x Cym. Via Annabino	Orchids Limited Int.
<b>CATLEYTONIA</b>			Fumi Emotion	Cym. Avenia x Cym. Early Forest	Santa Barbara (Richard Bean)
Acopant's Jamaica Jewel	Cina. Rosy Jewel x Cina. Jamaica Red		Gene Siskel	Cym. Doctor Baker x Cym. Ruby Eyes	Mogami Ran-en (S.U.)
Taina Hermosa	C. Masoli x Cina. Brandi		Golden Buddha	Cym. Sleeping Lamb x Cym. Sussex Dawn	Orchids Limited Int. (Geyserland)
<b>CYCNANDRA</b>			Happy Face	Cym. Fire Starter x Cym. Florence	L. Batchman
Jumbo Genie	Cyc. Jumbo Dragon x Gal. devoriana		Hoodlunt	Cym. Hunter's Point x Cym. Patricia Lea	L. Batchman
<b>CYCNOCES</b>			Hoqui	Cym. Fleux Rose x Cym. Sabra Dance	Kawano Merclone
Jumbo Canary	Cyc. Jumbo Dragon x Cyc. haagii		Hot Bitters	Cym. Bittersweet x Cym. Hot Prime	L. Batchman
<b>CYCNODES</b>			Howlin' Coyote	Cym. Mighty Mouse x Cym. Clarissa Austin	R. Dix
Jumbo Empire	Morm. badium x Cyc. pentadactylon		Iron Butterfly	Cym. Vellacia x Cym. Electric Ladyland	L. Batchman
Jumbo Jewel	Morm. badium x Cyc. haagii		Jade Dream	Cym. Lenon Butler x Cym. Baltic Honey	Orchids Limited Int.
Jumbo Rose	Cycad. Jumbo Phoenix x Cyc. pentadactylon		Kawano's Pride	Cym. Pink Ice x Cym. Joann Manago	L. Batchman
<b>CYMBIDIUM</b>			Kyllia's Own	Cym. Fitzgerald Glade x Cym. Solana Beach	K. Fukuhara (Michiaki Kawano)
Accelerated Affair	Cym. Golden Elf x Cym. atropurpureum		Lady Sylva	Cym. Lady Spring x Cym. Sylvan Globe	C. & B. Corable (R. Tucker)
Akatoy	Cym. Akebono x Cym. Masao Toya		Lisa Unamondo	Cym. Green Glass x Cym. Clarissa Austin	R. Dix
Alabama Getaway	Cym. Cupaulin x Cym. Federal Hill Fanfare		Little Waji	Cym. Mimi x Cym. Ruby Eyes	Finai (J. Unemoto)
Alexandra Carpenter Bourgeois	Cym. Tender Love x Cym. Gladys Whitesell		Loco Bandito	Cym. Bulbarow x Cym. Karen Pepper	L. Batchman
Animal Crackers	Cym. Anesha x Cym. Emotional Rescue		Lucky Shamrock	Cym. Southborough x Cym. Valley Zenith	L. Batchman
Astrum Beauty	Cym. Via Mar Tranquilla x Cym. Fred Stewart		Lucy Mary	Cym. Lucy Ana x Cym. Via Mar Tranquilla	L. Batchman
Autumn Beauty	Cym. Kath Nicholson x Cym. Red Beauty		Mary Leisy	Cym. Red Beauty x Cym. Ruby Eyes	L. Batchman
Baby Cakes	Cym. Golden Elf x Cym. dayrum		Mary McLeod Bethune	Cym. Carrie Chapman Catt x Cym. Early Forest	Orchids Limited Int. (Cobbs)
Bachchanal	Cym. Valley of Death x Cym. Carpepper		Mas Ceza	Cym. Pink Champagne x Cym. Phala	L. Batchman
Barbados Sky	Cym. Emotional Rescue x Cym. Mini Doll		Melinda Snow	Cym. Melinga x Cym. Billop	K. Black (Wondabab)
Black Forest	Cym. Gordon Gibbs x Cym. Tellys		Memoria Frank Lane	Cym. Doctor Baker x Cym. Melinga	L. Batchman
Black's Beach	Cym. Victoria Anvarita x Cym. Loren's Treasure		Mini Bouquet	Cym. Fifi x Cym. Mighty Sunset	R. Olsan (Uladdilla O.)
Blaze Figure	Cym. Claude Pepper x Cym. Carol Cox		Mini Doll	Cym. Lucky Rainbow x Cym. Seaside	H. Chun
Blaze Heart	Cym. Balhal x Cym. Rose Armstrong		Mini Kian	Cym. Fifi x Cym. Dolly	Kawano Merclone
Blaze Melody	Cym. Sensation x Cym. Christmas Morn		Moondog Memory	Cym. Sylvan Khan x Cym. Minneken	K. Black
			Mouse Eyes	Cym. Tellys x Cym. Olive Street	Orchids Limited Int.
			Palms Verdes Estates	Cym. Mighty Mouse x Cym. Ruby Eyes	L. Batchman
			Pearl Chorus	Cym. Maraketh x Cym. Panache	H. Chun (Bailey's Orchids)
			Pearl Illusion	Cym. Atlantic Sun x Cym. Via Tranquilla	Mogami Ran-en (S.U.)
			Pearl Melody	Cym. Great Flower x Cym. Carol Cox	Mogami Ran-en (S.U.)
				Cym. Autumn Day x Cym. Via Costa	Mogami Ran-en (S.U.)



NAME	PARENTAGE	REGISTERED BY
<b>CYMBIDIUM (continued)</b>		
Pink Elephant	Cym. Pinata Eleph x Cym. Enchanted Beach	L. Batchman
Pink Love	Cym. Gligamesh x Cym. Woody Wilson	L. Batchman
Pink Pop	Cym. Pink Veil x Cym. Florence	Kawano Merclone
Piper's Dream	Cym. Peter Piper x Cym. Dream Girl	Everglades
Pippin	Cym. Rose Armstrong x Cym. Baltic Honey	L. Batchman
Pirate Cove	Cym. Florilame x Cym. Rolling Stone	L. Batchman
Poquito Bandito	Cym. Black Silk x Cym. Karen Pepper	L. Batchman
Prime Sylvan	Cym. Hot Prime x Cym. Sylvan Globe	R. Dix
Quaasy	Cym. Applejack x Cym. Rolling Stone	L. Batchman
Rabbie Rouser	Cym. Mighty Sunset x Cym. Carpepper	L. Batchman
Rachel Carson	Cym. Francis Parker x Cym. Sleeping Beauty	Orchids Limited Int.(TK/Koile)
Radiation	Cym. Fascination x Cym. Radiant Harry	Spring Doll
Royal Red	Cym. Crimson Knights x Cym. Florence	Troweeau(J.Woodward)
Samantha Macure	Cym. Winter Fair x Cym. Jean Slattery	Kawano Merclone
Scarlet Moon	Cym. Ann Miller x Cym. Clarisse Austin	A. Macure(J. Whitehouse)
Secret Heart	Cym. Sensation x Cym. Oymilium	L. Batchman
Shintaro	Cym. Oriental Legend x Cym. Rio Regent	Mogami Ran-en(S.U)
Showdown	Cym. Victoria Arvanitis x Cym. Mariner	B. Umbrasas(W.R. Johnson)
Silhouette Heart	Cym. Dolores Hoyt x Cym. Via Tranquilla	L. Batchman
Smackwater Jack	Cym. Christmas Morn x Cym. Rincon	Mogami Ran-en(S.U)
Sno-Cone Queen	Cym. Shogo's Swan x Cym. Femdale Ice	Orchids Limited Int.
Snow Queen	Cym. Via Mar Tranquilla x Cym. Loren's Treasure	L. Batchman
Spring Chorus	Cym. Dolores Hoyt x Cym. Via Tranquilla	Mogami Ran-en(S.U)
Spring Dream	Cym. King Arthur x Cym. Swan Lake	Santa Barbara
Spring Figure	Cym. Dolores Hoyt x Cym. Great Expectations	Mogami Ran-en(S.U)
Spring Skip	Cym. Via Mar Tranquilla x Cym. Lucky Rainbow	Mogami Ran-en(S.U)
Sunlight Melody	Cym. Rincon Lady x Cym. Golden Sunset	Mogami Ran-en(S.U)
Sunset Fanfare	Cym. Rose Armstrong x Cym. Solana Beach	Mogami Ran-en(S.U)
Super Line	Cym. Great Katy x Cym. Line Stone	Kawano Merclone
Taree Gold	Cym. Wallara x Cym. Tom Thumb	Santa Barbara
Tiger Falls	Cym. Funny Face x Cym. Carisosa	L. Batchman
Toto	Cym. Fuss x Cym. Claude Pepper	A & P Orch.
Ultimate Love	Cym. Puppy Love x Cym. Ultimatum	L. Batchman
Wee Pkix	Cym. Rincon Lady x Cym. Oymilium	L. Batchman
Whodathunkit	Cym. Tender Love x Cym. Clarisse Austin	Everglades
Wild Leopard	Cym. Pywackett x Cym. devonianum	Maynor Alonzo(Geyslerland)
Winter Chorus	Cym. Punisun x Cym. Lois Kelly	Mogami Ran-en(S.U)
Winter Emotion	Cym. Winter Fire x Cym. Christmas Morn	Mogami Ran-en(S.U)
Winter Mist	Cym. Winter Fair x Cym. Oymilium	L. Batchman
<b>DEGARMOARA</b>		Yamada Nursery
Memoria Jay Yamada	Odrbs. Kenneth Bivin x Missa. Aztec	A. Rosenberg(R. Friend)
Olympia	Missa. Pictic Point x Odm. bictontense	
<b>DENDROBIUM</b>		
Autumn Blush	Den. Autumn Fashion x Den. Autumn Reward	Impact Orch. (Karen McFarlane)
Autumn Impact	Den. Colonial Splendour x Den. Autumn Fashion	Impact Orch. (Karen McFarlane)
Carolyn's Surprise	Den. Gloucester Charm x Den. Jontock	Floraest(I. Klein)
CherryLee's Joy	Den. Midnight Velvet x Den. Bob Ching	J. Parker(O.U)
Christopher Michael	Den. Pramot x Den. Mae-Klong River	S. Yamprayoon
Dang Sa-Ad	Den. Peewee x Den. Pauline Rankin	R. Rankin
Doreen Rankin	Den. Superb-King x Den. tetragonium	Floraest
Floraest's Orange Delight	Den. Kathryn Banks x Den. Ku-Ring-Gai	Floraest
Floraest Sparkler	Den. Mario Cuomo x Den. Imelda Romualdez	J. Grezaffi
Friend of Jerod	Den. Hawaiian Heart x Den. Little Bolonga	J. Grezaffi
Friend of Roy	Den. Lime Frost x Den. bellatulum	H & R
Frosty Bells	Den. Grace Robson x Den. speciosum	Down Under N.O.
Gracemere	Den. Aussie Angel x Den. Singlow	Down Under N.O.
Grace Robson	Den. Blue Sparkle x Den. lasianthera	Down Under N.O.
Impact Twister	Den. Elegant Heart x Den. Ellen	Impact Orch.
Jack Robson	Den. Yondi Glow x Den. Aussie Victory	Down Under N.O.
Jazz	Den. Peewee x Den. Blushing Sun	R. Rankin
Kimberly Rankin	Den. Pearla Kouchi x Den. Lippy Lynne	Kamaaina
Kinberly Kawamoto	Den. Thailand x Den. Bansaeng Busaba	L. Hu
Linsieuh Amethyst	Den. Beast x Den. Aussie Victory	Down Under N.O.
Long Tan	Den. Walter Ourmae x Den. Lois Anderson	Toh Garden
Lucian Pink		

NAME	PARENTAGE	REGISTERED BY
<b>DENDROBIUM (continued)</b>		
Maria Davila	Den. Anching Lubag x Den. Edean Miyaji	F Ramos-Davila(O.U)
Menhune Charm	Den. palpebrae x Den. thyrsiflorum	Exotic Orchids
Mingie's Sapphire	Den. victorae-reginae x Den. gorzalesii †	A. Millet
Nasa Breed	Den. Datto x Den. Anna Bibus	D. Phungpermatrakool
Odorin's Falcination	Den. Odorin's Canary Diamond x Den. Alice Ogata	Odorin's Kaniya
Odorin's Golden Treasure	Den. Odorin's Goldmine x Den. Louise's Gem	Odorin's Kaniya
Odorin's Harvest Gold	Den. Paolo Sunshine x Den. Anulani Hinojosa	Odorin's Kaniya
Odorin's Indigo	Den. Odorin's Fuchsia x Den. Burmesa Hubby	Odorin's Kaniya
Odorin's Unique Gem	Den. Paolo Sunshine x Den. Louise's Gem	Odorin's Kaniya
Roy-Joe	Den. Hawaiian Heart x Den. Mario Cuomo	J. Grezaffi
Spring Doll	Den. Ise x Den. Wikidaurama	H & R
Tammy Binsinger	Den. Nopporn White x Den. Vladimir Posner	J. Grezaffi
Tarika	Den. antennatum x Den. Merritt Island	T. Vajrabhaya
Tay Choon Huat	Den. Ng Eng Cheow x Den. Theodore Takiguchi	H.Y. Lau
Tosca	Den. Lustrous x Den. Vivid	Down Under N.O.
Twikarn	Den. Twelve x Den. Montakan	T. Vajrabhaya
Victorian Bride	Den. Rutherford Blushing Bride x Den. Aussie Victory	W. Turville
Victorian Regency	Den. Jesmond Sparkler x Den. Aussie Parade	W. Turville
Victorian Rose	Den. Yondi x Den. Yondi Brolga	W. Turville
Winston	Den. Ellen x Den. Aussie Victory	Down Under N.O.
<b>DISA</b>		
Derek Shaw	Disa Sea Lord x Disa Corinne Blanc	H.H. Taylor(D. Shaw)
Glasgow Foam	Disa Glasgow Orchid Conference x Disa Foam	Phab. Phal.(J. Klein)
<b>DORTAENOPSIS</b>		
Ananda's Mary	Dips. Spuyten Duyvil x Phal. Fairy Tales	Carib Plants
Autumn Bells	Dips. Autumn Sun x Phal. Golden Bells	M.C. Thompson(M. Steen)
Beauty Anar	Dips. Beauty Sheena x Phal. amabilis	Shina Yoran-en
Beauty Century	Dips. Beauty Sheena x Dips. Happy Sheena	Shina Yoran-en
Blushing Zebra	Phal. Ivory Zebra x Dips. Inverness Firebrand	Phalatics
Brother Terrace	Dips. Happy Valentine x Phal. Brother Purple	Mid-Pacific(Brother)
Cherries and Cream	Dips. Esperanto x Phal. Jewell Jamison	T. Larkin
Ching Ann Rose	Dips. Minho Princess x Dips. Tada Rose	Ching Ann
Ching Hua Horn	Phal. Lippelake x Dips. Hsinying Festival	Ching Hua
Copertone	Dips. Jim x Phal. Heavenly Gold	T. Larkin
Eric's Stripe	Dips. Taisuco Beauty x Dips. Okay Seven	Iowa Orch.(Norman's Orch.)
Fangtastic Mariana Myers	Phal. Golden Pecker x Dips. New Candy	Norman's Orchids
Fangtastic Roslynn Greenberg	Phal. Golden Pecker x Dips. Montclair King	Norman's Orchids
Gemstone's Fire Belle	Phal. Melle Belle x Dips. Firehouse	Gemstone
Gemstone's Fire Dancer	Dips. Firehouse x Phal. Angel Dancer	Gemstone
Gemstone's Misty Sun	Dips. Sun Doll x Phal. Misty Moon	Gemstone
Gemstone's Red Sea	Phal. Firehouse x Phal. Miami Sea	Gemstone
Gemstone's Rose Queen	Phal. Soraa Apicot x Dips. King Shang's Rose	Gemstone
Gemstone's Sunrise	Dips. Sun Doll x Phal. Nancy Ann Acker	Gemstone
Glad Anar	Dips. Yoshiko's Glad x Phal. amabilis	Shina Yoran-en
Happy Clouds	Phal. Abendwolk x Dips. Happy Valentine	Shina Yoran-en
Happy Inverness	Dips. Inverness Firebrand x Dips. Happy Valentine	Orchideen Koch
Hsinying Hall	Dips. Wedding Hall x Dips. Hsinying Festival	Ching Hua
Hsinying Jack	Phal. Hsinying Lady x Dips. Hsinying Rifle	Ching Hua
Hsinying Redfire	Dips. King Shang's Rose x Dips. Hsinying Rifle	Ching Hua
Hsinying Zebra	Dips. Minho Princess x Dips. Hsinying Festival	Ching Hua
I-Hsin Black Rock	Phal. Golden Pecker x Dips. Leopard Prince	W.T. Chien
I-Hsin Black Rose	Phal. Ever-spring King x Dips. I-Hsin Little Star	W.T. Chien
I-Hsin Chocolate	Phal. Ever-spring King x Dips. Leopard Prince	W.T. Chien
I-Hsin Zebra	Phal. Chih Shang's Stripes x Dips. Leopard Prince	W.T. Chien
Jubilation	Dips. Ananda's Mary x Phal. Maki Watanabe	Carib Plants
Lennetopf	Phal. Aromanches x Dips. Lennetppchen	Orchideen Koch
Leucadia Butterball	Dips. Descanso x Phal. Livingston's Dazzle	Orchid Connection(Leucadia)
Little Estrella	Dips. Cherry Star x Phal. equestris	Zuma Canyon(O.U)
Mickey's Surprise	Phal. Be Tris x Dor. pulcherrima	Mickey's
Minho Davis	Dips. Taisuco Love x Dips. Happy Valentine	Nobby Orch.
Minho Diamond	Dips. Purple Gem x Dips. Taisuco Beauty	Nobby Orch.
Minho Knight	Dips. Minho Valentine x Dips. Taisuco Sweet	Nobby Orch.
Minho Love	Dips. Taisuco Love x Phal. New Cinderella	Nobby Orch.
Minho Peewee	Dips. Minho Kingbeauty x Phal. New Cinderella	Nobby Orch.
Minho Pink Baby	Dips. Taisuco Sweet x Dips. King Shang's Rose	Nobby Orch.
Minho Purple	Dips. Minho Valentine x Dips. Taisuco Beauty	Nobby Orch.



NAME	PARENTAGE	REGISTERED BY
<b>DORTAENOPSIS (continued)</b>		
Mintho Romance	Dips. Mintho Valentine x Dips. Taisuco Happy Beauty	Nobby Orch.
Mintho Roseherz	Dips. Taisuco Beauty x Phal. New Cinderella	Nobby Orch.
Mintho Sweet	Dips. Taisuco Sweet x Dips. Taisuco Beauty	Nobby Orch.
Mintho Venus	Dips. Mintho Valentine x Phal. New Cinderella	Nobby Orch.
Miva Major	Dips. Mivamax x Phal. Mivalort	Michel Vacherot
Montclair King	Dips. King Shiang's Beauty x Phal. Ida Fukumura	Norman's Orchids
Montclair Valentine	Phal. Taisuco Luenhng x Dips. Happy Valentine	Norman's Orchids
Nancy Rose	Dips. Amanda Mary x Phal. Danse	Carib Plants
Pisgah Dorado	Dips. Taisuco Appleline x Dips. Dorado	Owens Orch. (Looking Glass)
Plum Rose Princess	Dips. Plum Rose x Dips. Mintho Princess	Oneside
Red Pearl	Phal. Goldiana x Dor. pulcherrima	T.Larkin
Sari's Rob	Dips. Carriel Hillegonds x Phal. Kathy Herdich	Hausemann
Shari Marr Hermes	Phal. Roussele x Dips. Mintho Princess	W.Tipit
Sinica Diana	Dips. Happy Valentine x Phal. Tinnv Roseheart	Shen Nung Agr.
Sinica Fantasy	Phal. Chih Shiang's Stripes x Dips. Taisuco Firebird	Shen Nung Agr.
Sinica Flamingo	Dips. Rose Valentine x Dips. Taisuco Firebird	Shen Nung Agr.
Sinica Juliet	Dips. Taisuco Valentine x Dips. Taisuco Firebird	Shen Nung Agr.
Sinica Kitty	Phal. Carmela's Pixie x Dips. Taisuco Firebird	Shen Nung Agr.
Sinica Maple	Dips. Sinica Knight x Dips. Taisuco Firebird	Shen Nung Agr.
Sinica Melody	Dips. Rose Valentine x Dips. Taisuco Firebird	Shen Nung Agr.
Sinica Ruby	Dips. Yu Pin Coral x Dips. Taisuco Firebird	Shen Nung Agr.
Springtime Blush	Dips. Suyen Duyvil x Phal. Lady Jennifer	Carib Plants
Sugar Escapade	Dips. Escapade x Phal. Lady Jennifer	Hausemann
Subhur Star	Dips. Autumn Sun x Dips. Buena Lemon Brité	J.&J. Selles (OU)
Sunlands Dark Rose	Phal. Omura x Dips. Lin Jiang Rose	S.Heyden
Surprise Pink	Phal. World Wonder x Dips. Hausemann's Classic	Hausemann
Taisuco Bloody Mary	Dips. Taisuco Firebird x Phal. Taisuco Spider	WH.Chen
Taisuco Fairy	Dips. Taisuco Pimble x Phal. Taisuco Spider	WH.Chen
Taisuco Honeylip	Dips. Hamakia Beauty x Phal. Taisuco Harmonylip	WH.Chen
Taisuco Necharne	Dips. Taisuco Red Cheek x Dips. Taisuco Pimble	WH.Chen
Taisuco Phoenix	Phal. Hwaling Redqueen x Dips. Taisuco Firebird	WH.Chen
Taisuco Red Cheek	Dips. Happy Smile x Dips. Taisuco Red	WH.Chen
Taisuco Snowball	Dips. Taisuco Winwonder x Phal. Taisuco Swan	WH.Chen
Taisuco Whisper	Phal. Brother Fancy x Dor. pulcherrima	WH.Chen
Taisuco Winwonder	Phal. Taisuco Windian x Dips. White Wonder	WH.Chen
Topic Splash	Dor. pulcherrima x Phal. Topic Red	John Hutchinson
White Giant	Dips. Whistling Swan x Dips. Orglade's Puff	John H.Miller
<b>DRACUVALIA</b>		
Alicia Stiles	Masd. mactura x Drac. vampira	G.Staal
<b>EPICATILEYA</b>		
Forest Elf	Epi. conopseum x C. bicolor	Stewart Orch. (Highland Trop)
Golden Eagle	Epi. umbellatum x C. David Sweet	Orchidby El
Green Genes	Epi. mariae x C. schroderae	R.B.Cole
<b>EPIDENDRUM</b>		
Dancer's Promise	Epi. endresii x Epi. ilense	B.Huizing
Memoria Don Herman	Epi. chloroleucum x Epi. tampense	A.Gum
Memoria Pat Worthington	Epi. chloroleucum x Epi. cordigerum	A.Gum
Playtime	Epi. medusae t x Epi. aurum	Stewart Orch. (Peninsula)
Prismatos	Epi. prismatocarpum x Epi. Stetescuartos	H.Rohr
Tropical Bees	Epi. Bees' Knees x Epi. aialum	Impact Orch. (Coleman's)
<b>EPILAELOCATILEYA</b>		
Coral Shine Tokuzato	C. guffata x Epi. Mae Bly	S.Tokuzato
Hsiying Orange	Lc. Thick or Treat x Epi. pseudopendulum	Ching Hua
Marvin's Madness	Lc. Jalapa x Epi. cilare	R.&M.Gerber
<b>GALEANDRA</b>		
Jim Moses	Gal. dives x Gal. batemanii	J.Stubbings
<b>GUMAPA</b>		
Juicy Fruit	Dial. Fair Jewel x Epi. chloroleucum	A.Gum
<b>HASEGAWAARA</b>		
Red Stella	Pot. Coral Queen x Cina. Keith Roth	L.Lúgaro-Stella (Carmela)
<b>HAWKINSARA</b>		
Hawaiian Beauty	Sic. Precious Stones x Cina. Capri	Long Life(USA)
Little Capri	Sic. Little Hazel x Cina. Capri	D.Neudorff
New Neon	Cina. Why Not x Sic. Maricana	W.H.Huang
<b>KAGAWARA</b>		
Xenos' Arena Roja	Kgw. Red Lava x Ascda. Sandpiper	M.Metzger
<b>LAELIOCATONIA</b>		
Acopan's Hoptily Hop	Lc. Adolph Hecker x Cina. Jamaica Red	R.Acopan (Richella)
Bay Jewel	Lc. Mini Purple x Cina. Why Not	Golden Blossom
Chyong Guu Cherry	Cina. Why Not x Lc. Trick or Treat	C.Ftiso
Fancy Free	L. Latona x Cina. Why Not	J.Walters
Little Clown	Lc. Tokyo Magic x Cina. Capri	Long Life(USA)
Little Long Life	Lc. Angel Heart x Cina. Capri	Long Life(USA)
Rosy Drumbeat	Cina. Rosy Jewel x Lc. Drumbeat	D.Neudorff
Tarisan	Lcna. Peggy San x Lc. Auratari	J.Walters
<b>LAELIOCATILEYA</b>		
Academy Colors	Lc. Mini Purple x C. Interglossa	Trowena(J. Woodward)
Barbara Buck	Lc. Tiny Treasure x Lc. Mini Purple	R.B.Cole
Cape Pride	Lc. Rolf Altenburg x Lc. Drumbeat	Duckitt
Diana Rehfild	Lc. Cinnamon Slick x C. Schillac	J.Rehfild
DiPozzi Operetta	C. Irelcia x L. Irelbrosa	F.Edmondo Pozzi
DiPozzi Rimini	L. Belle de Nuit x Lc. Elgoid de Valec	F.Edmondo Pozzi
Dolores Helen	Lc. Spring Bunniet x C. Intermédia	J.Pikington
Doria Tina	Lc. Roy Finley x C. guffata	Coqui
Firestarter	Lc. Trick or Treat x C. Warpaint	J.&J. Selles (Coqui)
Jane's Song	Lc. Mari's Song x Lc. Irene Finney	Norman's Orchids (OU)
Jane Withers	Lc. Little Bon Lc. Memoria Ben Bracey	Stewart Orch.
Larissa Alencar Barreto	Lc. Color Guard x Lc. Pamerttia	L.Barreto
Lukennedy	L. lucasiana x C. Pradisi	S.Barani(A. Manarini)
Magie Peals	Lc. Culmiant x Lc. Paradiso	L.Barreto
Man's Love	Lc. Mari's Song x Lc. Love Knot	H & R
Maul Margaria	C. Lynn Spencer x Lc. Peggy Huffman	Exotic Orchids(W.Bletz)
Mishima Elf	Lc. G. Roebing x Lc. walteriana	Hanajima's
Mishima Nancy	L. Papurata x Lc. Tyela	Hanajima's
Mishima Nymph	Lc. Mini Purple x Lc. Susan Holguin	Michel Vacherot
Miva Presley	C. Mini Angiana x Lc. Miva Royal Chocolate	T. Abe
Miyuki Ruby	Lc. Mini Purple x Lc. rogersii	Dogashima
Mona Pink	Lc. Pri PH x Lc. Mini Purple	M.Hotta
Mysterious Art	Lc. Harold Carlson x Lc. Colorama	S.Barani
Noble's Charm	Lc. Rolf Altenburg x C. Rubens Ribeiro	S.Barani
Noble's Flame	Lc. Alexis Sauer x Lc. Royal Emperor	Norman's Orchids (OU)
Orchid Affair	Lc. Mari's Song x C. Horace	J.Grezaffi
Roy Blaisinger	Lc. Cammiana x Lc. Kevin Green	Suwada Orch.
Spring Bride	Lc. Commander x Lc. Antonetta Mahan	L.Barreto
Tropical Orchid	L. glodentiana x Lc. Amber Glow	Suwada Orch.
Tropical Wedding	Lc. Halo Wedding x Lc. Tropical Sunset	Orch.Nurs.Johnny
Yoshiko Suzuki	Lc. Waanae Sunset x Lc. Nigerdale	L.Barreto
Yvonne Kasinski	Lc. Hyperion x C. Fatima Barani	
<b>LAGERARA</b>		
Fairy Red	Asid. Fiery x Oda. China Red	H.Rohr
Fred Cheer	Lgra. Cheerful x Oda. Susan's Surprise	Trowena(J. Woodward)
<b>LYCASTE</b>		
Andrew	Lyc. dowiana x Lyc. candida	H.Oakeley
Astra	Lyc. tricolor x Lyc. brevispatha	T.Goshima(K.Uchida)
Caroline	Lyc. Rachel x Lyc. luminosa t	H.Oakeley
Christopher	Lyc. campbellii x Lyc. Diana	H.Oakeley
Esbird	Lyc. dowiana x Lyc. deppel	H.Oakeley
Garfield	Lyc. Diana x Lyc. dowiana	H.Oakeley
Graham	Lyc. locusta x Lyc. Olivia	Y.Suzuki
Green Bell	Lyc. jarnesi x Lyc. Monoyama	H.Oakeley
Hilary	Lyc. luminosa x Lyc. Diana	H.Oakeley
Katherine Warriner	Lyc. ipala t x Lyc. Rachel	H.Oakeley
Kay		



NAME	PARENTAGE	REGISTERED BY
LYCASTE (continued)		
Kenneth	Lyc. ipala x Lyc. xiphophora	H.Oakley
Mont Mado	Lyc. locusta x Lyc. glyneria †	E.Young O.F.
Noriko Takaki	Lyc. deppesi x Lyc. candida	Y.Suzuki
Pamela	Lyc. Rachel x Lyc. Nebula	H.Oakley
Paul	Lyc. Rachel x Lyc. Cupid	H.Oakley
Richard	Lyc. dowiana x Lyc. barringtoniae †	H.Oakley
Robin	Lyc. macrophylla x Lyc. janssii	Y.Suzuki
Rock Candy	Lyc. locusta x Lyc. candida	H.Oakley
Sarah Warriner	Lyc. brevisagitta x Lyc. Diana	H.Oakley
Sharon	Lyc. leucantha x Lyc. Diana	H.Oakley
Stoneville	Lyc. Diana x Lyc. Erin Harmony	H.Oakley
Teabag	Lyc. dowiana x Lyc. xiphophora	H.Oakley
Tinobly	Lyc. Rachel x Lyc. Diana	H.Oakley
Winifred	Lyc. ipala x Lyc. peruviana †	H.Oakley
Wild Happiness	Lyc. Luanan x Lyc. lasioglossa	H.Oakley(Wyld Court)
Wyd Vert	Lyc. Wyld Wine x Lyc. Aphrodite	H.Oakley(Wyld Court)
Yoko's Sister	Lyc. orientis x Lyc. aromatica	A.Mochizuki
MASDEVALLIA		
Aristocrat	Masdev. Elfrieden x Masdev. coccinea	R.Hull
Cape Gold	Masdev. Copper Angel x Masdev. strobilifera	Duckitt
Copper Dust	Masdev. Copper Angel x Masdev. Fluke Dust	G.Staal
Isbren	Masdev. Harequin x Masdev. Marguerite	I.Wien
Little Honey	Masdev. Strobilifera x Masdev. Freckles	P.Nicholas
Maul Vell	Masdev. Copper Angel x Masdev. exquisita	G.Staal
Razzle Dazzle	Masdev. Triangulum x Masdev. datura	I.Komoda
Pene Komoda	Masdev. Copper Angel x Masdev. Keiko Komoda	P.Nicholas
Snow Bunny	Masdev. Fuzzy Navel x Masdev. lychiphora	P.Nicholas
Tangerine Stripes	Masdev. Jyngasensis x Masdev. welschii	P.Nicholas
Winter Sun	Masdev. Marguerite x Masdev. agastir	P.Nicholas
MILTASSIA		
Acopan's Star Bright	Mtssa. Aztec x Mtssa. William Kirch	R.Acopan(Richella)
Catherine of Aragon	Mtssa. Aristocrat x Brs. Datacosa	Sky Island
Memoria Serge Rachmaninoff	Mtssa. Mariana Peter x Mtssa. Abendstern	A.Schlinger
Picnic Point	Brs. maculata x Mtssa. William Kirch	A.Rosenberg(O/U)
MILTOWA		
Autumn Sunset	Milt. Mrs. Anneli Loeb x Milt. Emotion	E.Carlson
Avalon	Milt. Anamaria Baptista x Milt. Edmonds	Castle Rock Orch.
Berestford	Milt. Rozel x Milt. Bel Royal	E.Young O.F.
Bright Courage	Milt. Lorene x Milt. Gentle Smile	Castle Rock Orch.
Butterfly Queen	Milt. Golden Butterfly x Milt. Blackberry Cream	Castle Rock Orch.
Cotton Candy	Milt. Bleuana x Milt. Memoria Janet Howard	Lehua(O/U)
Coupe Point	Milt. Rozel x Milt. Elizabeth Castle	Castle Rock Orch.
Doris Marie Anderson	Milt. Versailles x Milt. Lydia Selon	E.Young O.F.
Grove de Leq	Milt. Meadowdale x Milt. Lylla Selon	I.Komoda
Honolulu Spectacular	Milt. speculabilis x Milt. Honolulu	Lehua(J.Rienfeld)
Ken Peterson	Milt. Seminole Blood x Milt. Honolulu	Everglades
Lela Rimmel	Milt. Emotion x Milt. Meadowdale	E.Carlson
Leoville	Milt. Emotion x Milt. Meadowdale	E.Young O.F.
Les Chenes	Milt. Goret x Milt. Rozel	E.Young O.F.
Masked Marvel	Milt. Lorene x Milt. Rajah	Castle Rock Orch.
Maui Dream	Milt. Jonora x Milt. Emotion	I.Komoda(Hallme Ono)
Maui Eclipse	Milt. Timberline x Milt. Versailles	I.Komoda
Maui Mist	Milt. Gascogne x Milt. Martin Orenstein	I.Komoda
Maui Starburst	Milt. Ambre x Milt. Timberline	I.Komoda
Mout Schier	Milt. Portlet x Milt. Cheri Kabuki	I.Komoda
Oran	Milt. santiznael x Milt. Memoria Janet Rowand	E.Young O.F.
Pretty Wild	Milt. Sekoyouna x Milt. Lauren Klehm	Castle Rock Orch.
Red Swirl	Milt. Hamburg x Milt. Meadowdale	Castle Rock Orch.
Robert Jackson	Milt. Ambre x Milt. Pearl Ono	E.Carlson
Ron Parsons	Milt. Red Tide x Milt. Valere Ann	I.Komoda
Seminole Sand	Milt. Seminole Blood x Milt. Sand Cut	Mrs Kay Rinaman(N.Powell)
Serenia	Milt. roezli x Milt. Rainbow Falls	Everglades
Soquel Snowball	Milt. Yellow Ink Blot x Milt. Soquel	Castle Rock Orch.
Tesson Mill	Milt. Grouville x Milt. Saint Heller	E.Carlson
		E.Young O.F.
NAME	PARENTAGE	REGISTERED BY
MILTONIA (continued)		
White Summer	Milt. roezli x Milt. Second Love	H.Oakley
Woodlawn Ruby	Milt. Anne Warne x Milt. Richard Kanayama	E.Young O.F.
MILTONIDIUM		
Clown's Parade	Milt. My Clown x Onc. leucochilum	H.Oakley
Fanglatic Rita Hohenberg	Mtdm. Bartley Schwarz x Onc. leucochilum	Y.Suzuki
MORMODES		
Jumbo Bacia	Morm. badium x Morm. unia †	H.Oakley
Jumbo Bagnos	Morm. badium x Morm. elegans †	H.Oakley
Jumbo Candy	Morm. ignea x Morm. buccinator	H.Oakley
Jumbo Volcano	Morm. buccinator x Morm. badium	H.Oakley
ODONTODA		
Beverly Gaye Boardman	Odm. uto-skinneri x Oda. Saint Clement	H.Oakley
Black Bart	Oda. Jackie x Oda. Planet Dugger	H.Oakley
Blakes Seven	Odm. bictoniense x Oda. Olvera Hill	H.Oakley
Connie Johnston	Oda. roezliana x Odm. Connerio	H.Oakley
Cosmo-Bicuera	Odm. bictoniense x Oda. Blueira	H.Oakley
Doll's Alpenfeuer	Oda. Feuerluft x Oda. Trixon	H.Oakley
Elizabeth Garvie	Odm. praestans x Oda. Island Red	H.Oakley
Jane Austen	Odm. Mariella Rohrl x Oda. Maltomar	H.Oakley
Marilyn Baule	Oda. Countess x Oda. Stromar	H.Oakley
Marmolier	Oda. Eric Young x Odm. Stropheon	H.Oakley
Sechelt	Oda. Golden Rialto x Oda. Strilana	H.Oakley
Shelley Sorensen	Odm. Howe Sound x Oda. Island Red	H.Oakley
Susie Cairns	Oda. Le Nez Point x Oda. Red Rum	H.Oakley
ODONTORASSIA		
Fanglatic Bob Henley	Brs. Rex x Odm. Kenneth Bivn	H.Oakley
ODONTOCIDUM		
Ann Lauer Jesup	Odcadm. Roger Cole x Onc. praetextum	H.Oakley
Bob Hoffman	Odcadm. Tiger Butter x Odm. haryanum	H.Oakley
Evita	Onc. cheliphorum x Odm. laeve	H.Oakley
First Time	Onc. Sherry Baby x Odcadm. Memoria Vance Denton	H.Oakley
Hasthorn	Onc. onithorhynchum x Odm. hasliabium	H.Oakley
Look A Like	Odm. reichenheimii x Onc. Elegance	H.Oakley
ODONTOGLOSSUM		
Anna-Claire	Odm. maculatum x Odm. Geyser Gold	H.Oakley
Howe Sound	Odm. Costro x Odm. Stropheon	H.Oakley
ONCIDIUM		
Cameo Spring	Onc. Oniflamme x Onc. Specialty's Cameo	H.Oakley
Cameo Sunset	Onc. crispum x Onc. Specialty's Cameo	H.Oakley
Dancing Dafodil	Onc. Golden Handshake x Onc. Palmyre	H.Oakley
Golden Haynes	Onc. Gold Coin Butte x Onc. Mantini	H.Oakley
Heart of Gold	Onc. Golden Handshake x Onc. Lily Buckley	H.Oakley
Illustrious Susie	Onc. Illustre x Onc. Susie Slaughter	H.Oakley
Lily Buckley	Onc. Fiona Banks x Onc. Meriwa	H.Oakley
Olympic Gold	Onc. Golden Handshake x Onc. Winston Hills	H.Oakley
Rustic Canyon	Onc. Geyser Goldmine x Onc. annular	H.Oakley
Rustic Glory	Onc. nacranthum x Onc. Geyser Goldmine	H.Oakley
Rustic Ragtime	Onc. nacranthum x Onc. mendax †	H.Oakley
Rustic Sunspot	Onc. nacranthum x Onc. Sylvia Budd	H.Oakley
Sheba's Delight	Onc. Popoki x Onc. Manu	H.Oakley
Space Bees	Onc. sphacelatum x Onc. Killer Bees	H.Oakley
Tiger Bees	Onc. tigrinum x Onc. Killer Bees	H.Oakley
†OPHRYS (Oph.)		
Albertiana §	Oph. luciflora † x Oph. apifera †	H.Oakley
*ORCHIOPHRYS (Orcs.)		
Cold Fusion	Orchis fragrans † x Oph. Albertiana	H.Oakley



NAME	PARENTAGE	REGISTERED BY
OTAARA		
Bay Sunrise	Ctra. Why Not x Blic. Eim Kobayashi	Golden Blossom
PAPHIOPEDILUM		
Barbed Venus	Paph. venustum x Paph. barbigerrum	Clackamas
Barossa	Paph. Tantanola x Paph. Personella	Adelaide
Bass Strait	Paph. Masupi x Paph. Onyx	Adelaide
Beeches Dark Gem	Paph. Colonnella x Paph. Continental	G.Back(Geyserland)
Blackberry Delight	Paph. Colonnella x Paph. Continental	D.Hintz(Geyserland)
Black Mirror	Paph. Buena Bay x Paph. Via Virgenes	Suwada Orch.
Cape Cod Bay	Paph. Pathfinder Navigator x Paph. Creole	A & P Orch.
Cape York	Paph. Shireen x Paph. kolopakingii	Adelaide
Celtic Pride	Paph. Golin's Anethyst x Paph. Via Ornamento	A.Mochizuki
Christiane Jäger	Paph. Deperle x Paph. fairineum	J.Jäger
Clifford Raymond	Paph. Sea Cliff x Paph. Pacific Flight	Torance Oym.Soc. (Geyserland)
Coast Flight	Paph. Copperware x Paph. Cinderella	Suwada Orch.(M.Kimura)
Copperella	Paph. James Crow x Paph. Kimura's Pride	A.Scott(O/U)
Crow's Bill	Paph. Transvaal x Paph. Lady Isabel	Suwada Orch.
Cyber Net	Paph. Future World x Paph. Qantas	O.Vienghou
Den En	Paph. Tree of Amanda x Paph. Raven	H.Ozumi(Ratcliffe)
Don Browning	Paph. Jewel Bell x Paph. Scarlet Tree	Norman's Orchids
Double Tree	Paph. kolopakingii x Paph. adductum	S.Ohlund(R.J.Rands)
Duke of Earl	Paph. Emerald x Paph. hookerae	Adelaide
Emerald Hook	Paph. Caddiana x Paph. primum	M.Burack(O/U)
Encounter Bay	Paph. Turpe x Paph. Maudiae	Adelaide
First Fizz	Paph. Maudiae x Paph. Meon	Ching Hua
Flame Thrower	Paph. sanderianum x Paph. Susan Booth	Suwada Orch.
Flaxmill	Paph. Small World x Paph. Tokyo Festival	T.Takano
Formosa Lady	Paph. Copper King x Paph. Skip Bartlett	Suwada Orch.
Globe Festival	Paph. Winston Churchill x Paph. Beatrice Ernst	T.Takano(J.Hares)
Hakua	Paph. Golin's Anethyst x Paph. Castillo	Adelaide
Hallett Cove	Paph. Green Moon x Paph. hirsutissimum	J.Jäger
Helen Minner	Paph. Demura x Paph. Freckles	Suwada Orch.
Hirsut Moon	Paph. Black Velvet x Paph. Emerald	Ching Hua
Hoshizora	Paph. Winston Churchill x Paph. Parry Gripp	Santa Barbara
Hsinying Velvet	Paph. Julius x Paph. delenati	D.Eickhoff
Indomitable Parry	Paph. Pop Monkhouse x Paph. Jolly Roger	Adelaide
Jerry Eickhoff	Paph. henryanum x Paph. Supersus	G.Lawless(O/U)
Jolly Pop	Paph. Gwernpur x Paph. F. C. Puddle	T.Takano
Justice Clarence Thomas	Paph. Smith Hepworth x Paph. Maudiae	Adelaide
Konorebi	Paph. Divisadero x Paph. primum	Mrs R.Levy(O/U)
Leasingham	Paph. Faire-Maud x Paph. callosum	Adelaide
Lennon and Lime	Paph. Magic Flame x Paph. godefroyae	O.Vienghou
Lighthouse	Paph. sukhakuli x Paph. Pop Monkhouse	Adelaide
Manning Park	Paph. niveum x Paph. Kwoilon	A & P Orch.
Massachusetts Beauty	Paph. Carl Keyes x Paph. Cubby Broccoli	A & P Orch.
Massachusetts Red	Paph. mastersianum x Paph. philippinense	Lehua(Krull-Smith)
Master Philipp	Paph. Makuli x Paph. godefroyae	G.Lawless(G.Decker)
Matoaka Road	Paph. lowii x Paph. Dellaina	G.Lawless(N.Powell)
Matoaka Vin Rosé	Paph. primum x Paph. victoria-mariae	S.Ohlund(R.J.Rands)
Memoria Eleanor Ohlund	Paph. sukhakuli x Paph. hookerae	G.Lawless(G.Decker)
Memoria Gerald Lawless	Paph. primum x Paph. appletonianum	S.Ohlund(R.J.Rands)
Memoria Lucille Plank	Paph. randsi x Paph. philippinense	G.Lawless(N.Powell)
Memoria Michael Lawless	Paph. Berlin x Paph. Linda	J.Jäger
Memoria Walter Richter	Paph. Macabre x Paph. godefroyae	O.Vienghou
Micro Nova	Paph. Maude Read x Paph. Voodoo Magic	Adelaide
Midnight Millennium	Paph. Yerba Buena x Paph. Rod McLellan	T.Takano(E.Yung O.F.)
Moe	Paph. niveum x Paph. Royal Dear	A & P Orch.
Nix Dear	Paph. Powwow x Paph. Sparsholt	K.Ogawa
Odinadatta	Paph. Bar-Maud x Paph. Pop Monkhouse	Adelaide
Parry's Hill	Paph. Parry Gripp x Paph. Keyeshill	Suwada Orch.
Parry's Thunder	Paph. Parry Gripp x Paph. Thunder Bay	Santa Barbara
Pathfinder Mahdi	Paph. Hellarix x Paph. Lyric	S.Ohlund(Ratcliffe)
Peace of Mind	Paph. Miss World x Paph. Major Don	H.Ozumi
Port Noarlunga	Paph. Maudiae x Paph. Adelaide Polish	Adelaide
Feedback	Paph. Syd Monkhouse x Paph. ciliolare	Adelaide

NAME	PARENTAGE	REGISTERED BY
PAPHIOPEDILUM (continued)		
Ruby Ann Stead	Paph. Gail x Paph. philippinense	K.Stead
Saint Thomas Aquinas	Paph. bulenianum x Paph. Lady Isabel	G.Lawless(N.Powell)
Scott's Rose	Paph. Helvetia x Paph. parishii	Adelaide
Sea of Tranquility	Paph. Gaymaid x Paph. Battessa	T.Takano
Seiza	Paph. lawrenceanum x Paph. Gouttanium	Adelaide
Showdown	Paph. Bella Lucia x Paph. delenati	S.Roccaforte
Susan Wedegaertner	Paph. Gail x Paph. Meon	Adelaide
Tanunda	Paph. Olenus x Paph. Kevin's Wine	Ching Hua
Tatung Pride	Paph. English Tea x Paph. Cnderella	T.Takano(J.Hares)
Tedderella	Paph. Tenga x Paph. Small World	Suwada Orch.
Tengs World	Paph. Mount Toro x Paph. suprad	A.Mochizuki
Toro Bravo	Paph. dianthus x Paph. primum	G.Lawless(N.Powell)
Travis Shane Lawless	Paph. Sylvan Vale x Paph. Tree of Suwada	Suwada Orch.(M.Kimura)
Tree of Sylvan	Paph. Peter Black x Paph. Innadale	S.Astil(O/U)
Trident Inn	Paph. Tantanum x Paph. Winston Churchill	Adelaide
Trident Tantanums	Paph. Amber Star x Paph. Eileen Condon	Adelaide
Turo	Paph. Paony x Paph. Eileen Condon	E.Young O.F.
Two Wells	Paph. micranthum x Paph. Vanda M. Pearman	Adelaide
Victoria Village	Paph. kolopakingii x Paph. Syd Monkhouse	Suwada Orch.
Wirra Wirra	Paph. Gertrude Path x Paph. Small World	F.Glanz
World Path	Paph. Pine Glow x Paph. rothschildianum	F.Glanz
Wössner Brownlow	Paph. sukhakuli x Paph. helenae	F.Glanz
Wössner Goldsuk	Paph. kolopakingii x Paph. hennisium	F.Glanz
Wössner Kolehenn	Paph. kolopakingii x Paph. lawrenceanum	F.Glanz
Wössner Kololaw	Paph. Armeni White x Paph. kolopakingii	F.Glanz
Wössner Kolo-White	Paph. Pine Glow x Paph. Wössner Flamme	F.Glanz
Wössner Red Glow	Paph. Vert x Paph. sanderianum	F.Glanz
Wössner Rotluchs	Paph. henryanum x Paph. Wössner Flamme	F.Glanz
Wössner Rotpunkt	Paph. Igrinum x Paph. dayanum	F.Glanz
Wössner Tigerday	Paph. Carabe x Paph. Ambersham	Adelaide
Yacka	Paph. Denehurst x Paph. Bella Luna	T.Takano(J.Hares)
Yumegokochi	Paph. Hoopla x Paph. Tenga	H.Ozumi(M.Yamazaki)
Yunagi		
PETTITARA		
Fangtastic Orange Delight	Brsa. Orange Delight x Brsdm. Henry Melczar	Norman's Orchids
PHALIAUS		
Dan Rosenberg	Phaius tankervilleae x Phaius tuberculatus	E.F.G. Orchids
PHALIAENOPSIS		
Arizona Gem	Phai. Mahato x Phai. Olatt	E.Goo
Auckland Mirage	Phai. Pailang's Auckland x Phai. Brother Mirage	A.Arai(Brother)
Baldan's Spotted Imp	Phai. Schiluki x Phai. Roussele	Carib Plants(Baldan Orch.)
Big Sky Blush	Phai. Alice Sharpe x Phai. Escalation	C.Spiniell(T.F.Kimura)
Brian's Heliotrope	Phai. Sulacelpm x Phai. equestris	John Hutchinson
Brian's Spots	Phai. Perfect Choice x Phai. Carmela's Spots	John Hutchinson(Tropic 1)
Bronze Trophy	Phai. Texas Mist x Phai. Princess Liz	John H.Miller
Brother Gemstone	Phai. Snow Leopard x Phai. Brother Fancy	Gernstone(Brother)
Brother Majestic	Phai. Brother Fancy x Phai. Li Johnson	J.Majewski(Brother)
Brother Max	Phai. Sara Lee x Phai. Tabasco Tex	M.C.Thompson(Brother)
Bruce Weber	Phai. Soroa Romance x Phai. Soroa Splendor	Soroa
Buddha's Violet	Phai. Bedford Buddha's Son x Phai. violacea	T.Larkin
Candy Canary	Phai. Golden Bells x Phai. Bedford Buddha's Son	T.Larkin
Cardinal's Spirit	Phai. Spirit House x Phai. Carolina Red Zeller	T.Larkin
Carib's Candycane	Phai. Carib's Carnival x Phai. Champelen	Carib Plants
Coral Masterpiece	Phai. Jewell Jamison x Phai. Goldiana	T.Larkin
Coral Treasure	Phai. Golden Sands x Phai. Rose Carmine	Phaenatics
Cranberry Queen	Phai. verosa x Phai. Cherokee Chief	Hausermann
Crimson Spirit	Phai. Spirit House x Phai. Red Devil	E.Goo
Desert Mist	Phai. Via Goldmine x Phai. Meridian Rose	J & L.Selles(O/U)
Desert Red	Phai. Sweet Memory x Phai. Malibu Imp	E.Goo
Donsan Fancy	Phai. Hsinying Fancy x Phai. Hsinton Fancy	Ching Hua
Dorothy Willey	Phai. Sue Lalene Kenyon x Phai. Saint George	G.Kenyon
Fading Star	Phai. Dark Star x Phai. Deventeriana	S.Heyden(O/U)
Fangtastic Don Herman	Phai. Golden Pecker x Phai. Norman's Mist	Norman's Orchids
Fary Fonooni Beauty	Phai. Golden Yung-Ho x Phai. Hilo Sunset	M.Fonooni
Flaming Spirit	Phai. Amy Leann Scott x Phai. Bedford Buddha's Son	T.Larkin



NAME	PARENTAGE	REGISTERED BY
<b>PHALAENOPSIS (continued)</b>		
Phor. Malmcom	Phal. Safe x Phal. ambalis	E.S.Wright
Phor. Queen Marshid	Phal. Memoria Thekla Johnson x Phal. Carmela's Spots	M.Fonooni
Phor. Queen Marshid	Phal. Goldiana x Phal. Bedford Buddha's Son	T.Larkin
Phor. Goldfield	Phal. Memoria Regina Busses x Phal. Tiger Imp	F.J.Bergman
Phor. Goldfield	Phal. Kuntari Rarashati x Phal. All Aglow	Gemstone
Gemstone's Amber Glow	Phal. Barbara Moler x Phal. Clash of Titans	Gemstone
Gemstone's Black Knight	Phal. Mahalo x Phal. Pogo Pogo	Gemstone
Gemstone's Canary	Phal. Memoria Max Ellenberg x Phal. Hausmann's Aerostar	Gemstone
Gemstone's Corcorosa	Phal. Ambrosia x Phal. Corona	Gemstone
Gemstone's Dakota	Phal. Nok Cho' Yew x Phal. Memoria Hal Veevig	Gemstone
Gemstone's Lemon Creme	Phal. Suzana Wijanto x Phal. Kristen Roccatorte	Gemstone
Gemstone's Marked Man	Phal. ampolensis x Phal. Memoria Pedro Zamora	Gemstone
Gemstone's Pale Face	Phal. Otto Debs x Phal. Gemstone's Poetic Justice	Gemstone
Gemstone's Red Coral	Phal. Samba x Phal. Coral Isles	Gemstone
Gemstone's Red Glow	Phal. Taling's Red Fire x Phal. Memoria Alan Mork	Gemstone
Gemstone's Sea Queen	Phal. Miami Sea x Phal. Carnival Queen	Gemstone
Gemstone's Snow Magic	Phal. Francis Melendez x Phal. Snow Leopard	Gemstone
Gemstone's Sugar n Spice	Phal. Riverbend's Spice Berries x Phal. Otto Debs	Gemstone
Gemstone's Sylvia Delight	Phal. Sylvia Di Pollina x Phal. Double Delight	Gemstone
Gemstone's Triple Play	Phal. Memoria Hal Veevig x Phal. Luedde-violaacea	Gemstone
Glad Child	Phal. Rothschildiana x Phal. Gladrose	Gemstone
Golden Suzle	Phal. Suzana Wijanto x Phal. Goldiana	Norman's Orchids
Guaroneux	Phal. Barbara Buddha x Phal. Bamboo Baby	Coqui
Gypsy Spirit	Phal. Spirit House x Phal. Gypsy	A.D.Stock
Happy Times	Phal. Gladrose x Phal. Baldard's Spotted Imp	Carb Plants
Haur Jin Diamond	Phal. Golden Pecker x Phal. Ching Her Buddha	Ching Ann(Haur Jin Orch.)
Heavenly Marble	Phal. Red-Hot Chili x Phal. Heavenly Gold	T.Larkin
Heavenly Ruby	Phal. Red-Hot Chili x Phal. Golden Bells	Ching Hua
Hsinying Apple	Phal. New Fancy x Phal. Hsinying Lady	Ching Hua
Hsinying Apple	Phal. Hsinying Lip x Phal. New Fil	Ching Hua
Hsinying Ruler	Phal. Hakalau Ruler x Phal. Hsinying Lady	Ching Hua
Hsinying Shade	Phal. Pink Camp x Phal. Hsinying Lady	Ching Hua
Hsinying Sisi	Phal. Phiong Lady x Phal. Hsinion Rose	W.T.Chien
I-Hsin Black Panther	Phal. Ever-spring King x Phal. I-Hsin Leopard	D.T.Mowliav(O/U)
I-Hsin Black Tulip	Phal. Ever-spring King x Phal. amabilis	L.Vincent
Ivone Beauty	Phal. Brother Glamour x Phal. Carmela's Spots	Hausemann
Isabelle Dream	Phal. marni x Phal. wilsoni	Phalalics(O/U)
Ivory Prince	Phal. Friar Tuck x Phal. Smile Maker	Bettencourt
Ivory Zebra	Phal. Ambodoris x Phal. Tropic Sunset	Bettencourt
Jill's Favorite	Phal. Golden Gift x Phal. Charles Bishop	Bettencourt
John's Legacy	Phal. Golden Buddha x Phal. John Ewing	E.S.Wright
Joseph Philip Bettencourt	Phal. Gordon Erickson x Phal. Charles Bishop	M.Saniga
Jungle Joy	Phal. Joy Forever x Phal. Jungle Tapestry	John H.Miller
Kathy's Escalating Sunset	Phal. Escalation x Phal. Hilo Sunset	Hausemann
Kindred Spirits	Phal. Lemon Peel x Phal. Leucadia Gold	Orchid Korrection(Leucadia)
Kumason Bear	Phal. Hausmann's Adam x Phal. Andrea Nielsen	Hausemann
Leucadia Gift	Phal. Golden Gift x Phal. Green Mist	Phal. Sogo Lit-Angel x Phal. Golden Anboin
Lucille's Baby	Phal. Lucille Lundberg x Phal. Corning's Violet	Gemstone
Lynn's Dancer	Phal. Lynn Anders x Phal. Angel Dancer	Zuma Canyon
Malibu Cinderella	Phal. Culacan x Phal. philippensis	T.Larkin
Mandarin Fire	Phal. Donald Rigg x Phal. Goldiana	Hausemann
Marian's Harmony	Phal. World Wonder x Phal. Lynn Anders	M.Fonooni
Maryann Fonooni	Phal. Ever-spring Girl x Phal. Cassandra	Michel Vacherot
Miva Capella	Phal. Raptigny x Phal. Frisson	Michel Vacherot
Miva Concerto	Phal. Barbara Moler x Phal. Miva Troika	Michel Vacherot
Miva Romeo	Phal. Mivac Carissimo x Phal. Miva Grammy	T.Larkin
Miva Sarabande	Phal. Barbara Moler x Phal. Malibu Imp	Phal. Miva Charm x Phal. Miva Troika
Miva Upsilon	Phal. Miva Charm x Phal. Miva Troika	Phal. Arctic Dawn x Phal. Bamboo Baby
Moon Pixie	Phal. Arctic Dawn x Phal. Bamboo Baby	Phal. Samba x Phal. Malibu Heir
My Honey Bunny	Phal. Samba x Phal. Malibu Heir	Phal. Soroa Talisman x Phal. Soroa Candy Rose
Nan Bush	Phal. Soroa Talisman x Phal. Soroa Candy Rose	Phal. Hakalau Queen x Phal. Hawaiian Jamboree
Nobuchi Kamnaka	Phal. Fortune Buddha x Phal. Ambrosia	Phal. Fortune Buddha x Phal. Hawaiian Legend
Norman's Orchids	Phal. Jackie Debonis x Phal. Hawaiian Legend	Phal. Red Devil x Phal. Cassaleen
Norman's Stripes	Phal. Jackie Debonis x Phal. Hawaiian Legend	Phal. Mishiina Frost x Phal. amabilis
Olympia's Lipstick	Phal. Red Devil x Phal. Cassaleen	
Pale Rider	Phal. Mishiina Frost x Phal. amabilis	
<b>PHALAENOPSIS (continued)</b>		
Paul Vincent	Phal. marni x Phal. inscriptosinensis	L.Vincent
Petra Roth	Phal. Rosa Parade x Phal. philippensis	Orchideen Koch
Pixie's Choice	Phal. Carmela's Pixie x Phal. First Choice	Carb Plants
Purple Jewel	Phal. Jewell Jamison x Phal. equestris	T.Larkin
Purple Majesty	Phal. Kenneth Rudolph x Phal. Radiantly Yours	Hausemann
Rainbow's Garnet	Phal. Andalusia x Phal. Malibu Imp	E.Goo
Redland Sunset	Phal. Rainbow's End x Phal. Zuma Garnet	Carb Plants
Red Net	Phal. Sonnenau x Phal. Paul Tatar	A.D.Stock
Red Tyke	Phal. Leucadia Red Head x Phal. Ken Peterson	T.Larkin
Rosemarie's Baby	Phal. Red-Hot Chili x Phal. Lee Kol Choon	C.Hackney(H.Norton)
Sandstone Buddha	Phal. Golden Bells x Phal. Genuchau Gold	A.D.Stock
Schilluki	Phal. Navajo Sandstone x Phal. Golden Buddha	Carb Plants(O/U)
Sinica Pearl	Phal. Larry Suzuki x Phal. schilleriana	Shen Nung Agr.
Sio's Cinnamon Joy	Phal. White Moon x Phal. Wababoushi	Sky Island
Sio's Plummosa	Phal. Ambo Harvest x Phal. Alysha's Rose	Sky Island
Sio's Red Splendor	Phal. verosa x Phal. Cherry Plum	Sky Island
Sio's Super Tribute	Phal. Cherry Plum x Phal. Buddha Tribute	Sky Island
Stock's Bonanza Gold	Phal. Super Stupid x Phal. Buddha Tribute	Sky Island
Stock's Canyon Fire	Phal. Golden Joseph x Phal. Nevada Gold	A.D.Stock
Stock's Goldcup	Phal. Brother Rose x Phal. Ken Peterson	A.D.Stock
Stock's Red Fire	Phal. Taling's Red Fire x Phal. Ken Peterson	A.D.Stock
Stock's Snow Gold	Phal. Old Gold x Phal. Gladys Read	A.D.Stock
Stone Beach	Phal. Pailano's Spotted Moon x Phal. Chiyai Candy	Chen See-En
Sunlands Butternut	Phal. Sandra Livingston x Phal. starflana	S.Heyden
Sunlands Queen Star	Phal. Sunlands Antarctic Gold x Phal. Fading Star	S.Heyden
Sunlands Rainmaker	Phal. Fading Star x Phal. Queenlander Queen	S.Heyden
Taisuco Lipstick	Phal. Sunlands Rain Dancer x Phal. Orglade's Springview	W.H.Chen
Taisuco Paper	Phal. Lippegruss x Phal. Brother Fancy	W.H.Chen
Taisuco Spidra	Phal. Maui Snowfall x Phal. Taisuco Day	W.H.Chen
Taisuco Waltz	Phal. Spirit House x Phal. Cassandra	W.H.Chen
Takao Tajima	Phal. Taisuco Day x Phal. Taisuco Bulla	W.H.Chen
Texas Desert	Phal. Hawaiian Superstar x Phal. Richard Shaffer	Mid-Pacific(R.Tajima)
Tes Dandhas	Phal. Desert Opal x Phal. Double Delight	Orchid Korrection
Velvet Snow	Phal. Amy Learn Scott x Phal. Ken Peterson	A.D.Stock
Why Not	Phal. Meridia Michael Fine x Phal. White Velvet	Hausemann
Wössner Rosegold	Phal. Golden Pecker x Phal. amabilis	Norman's Orchids
	Phal. Wössner Gold x Phal. equestris	F.Glanz
<b>PHALANETIA</b>		
Pentel Flash	Phnita. Irene x Phal. equestris	Pentel
<b>PHRAGMIPEDIUM</b>		
Bel Croite	Phrag. Sorcerer's Apprentice x Phrag. caudatum	E.Young O.F.
Boley Bay	Phrag. Eric Young x Phrag. Grande	E.Young O.F.
Cape Bonanza	Phrag. Hanne Popow x Phrag. Pearcei	M.Tibbs
Fluquet	Phrag. Pearcei x Phrag. Eric Young	M.Tibbs
Gold Nugget	Phrag. Grande x Phrag. Memo Dick Clements	E.Young O.F.
Leucundas	Phrag. Hanne Popow x Phrag. Grande	E.Young O.F.
Majestic Tresses	Phrag. carludum x Phrag. warszewiczianum	M.Ledoux
Medallion	Phrag. boissianum x Phrag. warszewiczianum	White River
Mount Ford	Phrag. carludum x Phrag. warszewiczianum	L.Mountford
Randi McDonald	Phrag. boissianum x Phrag. Schoderiae	A.Tetelaf
Simon Field	Phrag. Hanne Popow x Phrag. Sedentif	M.Ledoux
Summer Sunset	Phrag. Don Wimer x Phrag. sargentianum	M.Ledoux
Tall Tails	Phrag. Ecu-Bess x Phrag. Pearcei	M.Ledoux
	Phrag. caudatum x Phrag. wallisi	
<b>PLEIONE</b>		
Millemum Dawn	Phn. Versailles x Phn. Rakata	M. Hazelton
Wenya	Phn. grandiflora t x Phn. imprichlii	H.Perner(W.Mehrens)
<b>POLYSTACHYA</b>		
Cape Sunrise	Pol. concreta t x Pol. Oudepost	Duckitt
Daring Snow Drop	Pol. bicarinata t x Pol. virginea	Duckitt
Frieda's Favourite	Pol. bicarinata x Pol. Oudepost	Duckitt



NAME	PARENTAGE	REGISTERED BY
<b>POTINARA</b>		
Atomic Glow	Pot. Free Spirit x S/c. Quantum Leap	D. Neuendorf
Bay Gold	S/c. Hawaiian Starlet x B/c. Erin Kodayashi	Golden Blossom
Bill Seat	Pot. Sao Paulo x C. <i>aurantiaca</i>	R. Gabriel
Chyong Guu Millennium	Pot. Chyong Guu Crown x B/c. Memoria Ong Wen-Mo	C. F. Rao
Ho-ri	Pot. Sweet Sugar x S/c. Maricana	T. Abe
Mishima Darling	B/c. Ticked Pink x S/c. Jeweler's Art	Handajima's
Mishima Emotion	Lc. Mini Purple x Pot. Memoria Hirokazu Gauda	Handajima's
Mishima Sunflow	S/c. Jeweler's Art x B/c. Herons Room	M. Hotta
Midnight Fantasy	Pot. Charmides x C. Interglossa	Norman's Orchids
Ontario Nugget	S/c. Yellow Doll x B/c. Orange Nuggett	T. Abe
Ruby Ace	Lc. Mini Purple x Pot. Waianae Comet	K. Takeuchi
Seiji Takeuchi	Lc. Mini Purple x Pot. William Farrell	Kouchi Koyama (Fuji Nurs.)
Spring Backfire	Pot. Chatoyan x Lc. Ovation	H & R
Toshi's Gem	S/c. Tangerine Jewel x B/c. Toshie Aoki	D. Neuendorf
Wendy's Sunset	B/c. Malworth Sunset x S/c. Wendy's Valentine	
<b>REAVANTANDA</b>		
Alice Crimson	V. <i>merillii</i> x Ren. <i>imshootiana</i>	Motes
<b>REAVANTHERA</b>		
Singapore Botanic Gardens	Ren. Kalsom x Ren. <i>bella</i>	Singapore Bot. Gdns
<b>RHINOCHILUS</b>		
Flora's Orange Delight	Sarco. Cherie's Wine x Rhin. <i>divitiflora</i>	Flora's
<b>RHYNCHORIDES</b>		
Vol's Little Bird	Rhids. Thai Noi x Rhyn. <i>coelestis</i>	Motes
<b>RONNYARA</b>		
Abigail Choo Ruyi	<i>Aé. lawrenceae</i> x Vasco. Tham Yuen Hae	Phoon Yoon Seng (T. Ramasamy)
<b>ROTHARA</b>		
Ilusión en Borinquen	Pot. Lemon Tree x Epi. <i>ciliare</i>	R. Sobrino
<b>*RUPPARA (Rippa.)</b>		
Theo Rupp	Otdcm. Susan Kaufman x Gom. <i>crispa</i>	A. Schilliger
<b>SCHOMBOCATTLEYA</b>		
Purple Plume	Schom. <i>superbiens</i> x C. <i>clasiata</i>	Santa Barbara
<b>SOBRALIA</b>		
Yellow Kiss	Sob. <i>xantholeuca</i> x Sob. <i>mirabilis</i>	Santa Barbara
<b>SOPHROCATTLEYA</b>		
Blanche Fukata	<i>Soph. brevipedunculata</i> x C. <i>walkeriana</i>	B. Fukata (K. Matsumoto)
Forest Kramer	C. Robin Colleen x <i>Soph. cernua</i>	J. Kramer (O/U)
<b>SOPHROLAELIOCATTLEYA</b>		
Angel Eyes	S/c. Bright Angel x C. Little Dipper	H & R
Angel's Pet	Lc. Angel Heart x S/c. Orpetli	H & R
Aurajinn	C. <i>aurantiaca</i> x S/c. Jinn	Stewart Orch.
Beth Bishop	S/c. Summerville x S/c. Jewel Box	R.B. Cole
Beulah Stewart	S/c. Isabelle Stone x S/c. Memoria Nina Stone	R. Stone
Camila Suzuki	L. <i>briegeri</i> x S/c. Fire Song	Orch. Nurs. Johnny
Cape Flame	S/c. Orpetli x Lc. Trick or Treat	Duckitt
Chyong Guu Online	S/c. Gold Nugget x Lc. Trick or Treat	C. F. Rao
Chyong Guu Venus	S/c. Koolau Seagulls x S/c. Precious Jewel	C. F. Rao
Coral Colors	S/c. Coral Mist x C. <i>bicolor</i>	Trowena (J. Woodward)
Crimson Treat	S/c. Golden Treat x S/c. California Apricot	F. Clarke
Dancing Susan	S/c. Dancing Ruby x Lc. Susan Holguin	Kokusai
Ellazac	Lc. Ella Esk x S/c. Ennerzac	S. Barani (G. Suzuki)
Ennerzac	Lc. Ennerdale x S/c. Anzac	S. Barani
Hina Lollipop	Lc. Sunrise Doll x L. <i>pumila</i>	Y. Hara
Irian	Lc. Mini Purple x <i>Soph. wittigiana</i>	T. Abe
Memoria Ken Martin	S/c. Bright Angel x S/c. Mahalo Jack	Castle Creek
Mishima Felicity	Lc. Susan Holguin x S/c. Jeweler's Art	Handajima's
Miyuki Little King	Lc. Mini Purple x <i>Soph. brevipedunculata</i>	T. Abe

NAME	PARENTAGE	REGISTERED BY
<b>SOPHROLAELIOCATTLEYA (continued)</b>		
Patricia Taife	C. <i>loddigesii</i> x S/c. Orpetli	R. Elliott
Petite Boyd	S/c. Hazel Boyd x S/c. Petite Pride	D. Neuendorf
Petite Fireworks	S/c. Psyche x C. Cherry Chip	Swada Orch.
Red Berry	S/c. Bright Angel x L. <i>milleri</i>	H & R
Ruby Love	Lc. Mini Purple x S/c. Psyche	T. Abe
Teri Lynne	S/c. Precious Stones x S/c. Aurajinn	R & M Gerber (Stewart Orch.)
William Clarke	S/c. Wendy's Valentine x S/c. Tropical Rocket	F. Clarke
Wissen	Lc. Wässner Tangerine x S/c. Wendy's Redstone	F. Glanz
<b>STELLAMIZUTARA</b>		
Sassy Lady	Bc. Island Charm x Chna. Capri	Long Life (USA)
<b>STEWARTARA</b>		
Quevel Mill	Adgm. Jersey x Oda. Eric Young	E. Young O.F.
<b>VANDA</b>		
Banjong Sky Blue	V. Kasen's Delight x V. Manuvadee	B. Manmanus (T. Lusu-p-anan)
Bill Buckle	V. <i>denismaria</i> x V. <i>cristata</i>	Motes
Happy Smile	V. Gold Spots x V. <i>insignis</i>	R. Orchids (Kulata)
Helena Zola	V. Dona Rome Sanchez x V. Golamco's Blue Magic	Pt. E. K. P. (A. Golamco)
Jumbo Dancer	V. <i>imbata</i> x V. <i>cristata</i>	J. & L. Seles (Motes)
Maria Teresa Ramirez	V. <i>imbata</i> x V. <i>personii</i>	M. Ramirez (Motes)
Mary Ann Ballard	V. Motes Resplendent x V. Motes Indigo	Motes
Nawaz Sharif	V. Josephine van Biero x V. Nina	Singapore Bot. Gdns
Rosie O'Donnell	V. Karulea x V. Katsura	Sorot (Palsanan)
Shades of Amber	V. <i>lamellata</i> x V. Motes Sahara	Notes
Sorot Melody	V. Fats Delight x V. Graham Gardner	Sorot (Palsanan)
Wendy Kelly	V. Pat Delight x V. Fuchs Fuchsia	R. F. Orchids
<b>VANDAENOPSIS</b>		
Joachim's Child	Phal. <i>laycockii</i> x V. Miss Joaquim	Singapore Bot. Gdns
Poetic License	V. Mitsy Shinsato x Phal. Porcia es Ponca	C. Hackney (Motes)
<b>VASCOSTYLIS</b>		
Kaleidoscope	Ascda. David Peterson x Rhyn. <i>coelestis</i>	R. Lawrence (R. F. Orchids)
Thai Frost	Vasco. Nong Kham x Rhyn. <i>coelestis</i>	Motes (O/U)
<b>VAUGHNARA</b>		
Jess Sai Neau	Bc. Binoso x Epi. Raganil	C. Hackney
<b>VUYLSTEKEARA</b>		
Hanna Friedland	Vuyli. Memoria Mary Kavanaugh x Oda. Phoenix Way	H. Liebman (A. Easton)
Memoria Marion Sheehan	Vuyli. Memoria Mary Kavanaugh x Oda. Shelley	Everglades (Gayserland)
<b>*WILLIAMARA (Wilm.)</b>		
Mellow	Agwa. Kiwi Sunrise x Zga. Dynamo	W. Fisher
<b>WILSONARA</b>		
Everglades Heritage	Wils. Bubba Mock x Onc. Anthroclous	Everglades
Fokawi	Otdcm. Incali x Oda. Red Rum	Trowena (O/U)
Gretta Doo	Oda. Keighleyensis x Onc. Santa Rosa	W. A. Baker
Phar Lap	Wils. Fokawi x Oda. Orneo	Trowena (J. Woodward)
Sarah Friedland	Otdcm. Solara x Oda. Janis Andrew	H. Liebman
Sedona Sunset	Otdcm. Tiger Hamblinen x Oda. Conway	W. A. Baker
Space Lace	Otdcm. Orispace x Oda. Scarlet Lace	W. A. Baker
<b>YAMADARA</b>		
Doctor Rafael Sobrino	B/c. Toshie Aoki x Epi. <i>ciliare</i>	R. Sobrino
Marcia Romick	B/c. Walkiki Gold x Epc. Green Genes	R. B. Cole
<b>ZYGOCOLAX</b>		
Adelaide City	Z. Titanic x Zcx. Eflin Jade	Adelaide
Barbara Jackson	Zcx. Veilchi x Z. Helen-Ku	R. B. Cole
Olympia	Zcx. Eflin Jade x Z. Alan Greatwood	Adelaide
<b>ZYGONERIA</b>		
Dynamite	Zga. Dynamo x Z. <i>crrinitum</i>	Adelaide



NAME	PARENTAGE	REGISTERED BY
ZYGONERIA (continued)		
Or	Z. Inky Dink x Zga. Dynamo	Adelaide
Pine Road	Zga. Adelaide Meadows x Zga. Dynamo	Adelaide
ZYGOPETALUM		
Debbie	Z. Gidget x Z. Kiwi Choice	W.Fisher
Dinkum Aussie	Z. Advance Australia x Z. Inky Dink	Adelaide
Lois	Z. Titanic x Z. mackayi	W.Fisher
Memoria Lottie Lehmann	Z. Blue Eyes x Z. Titanic	Floraltest

\* New intergeneric name with abbreviation for the following combination. The botanical authority follows each component genus.  
*Ophrys* = *Ophrys Linnaeus* x *Orchis* Linnaeus  
*Ruppaea* (named in honour of Mr. Theo Rupp of Switzerland, head of the judging group and Secretary of the Swiss Orchid Society)  
= *Gomara* R. Brown x *Odontoglossum* Kunth x *Oncidium* Swartz  
*Williamaea* (named in honour of Mr William Reginald Fisher of Australia) = *Colax* Lindley x *Neogardneria* Schlechter ex Garay x  
*Promenaea* Lindley x *Zygopetalum* W.J. Hooker

† Natural genus new to registration. The botanical authority follows the generic name.

*Ophrys* Linnaeus

§ First registration as a grex of a natural hybrid

*Ophrys* Albertiana

† Species appearing for the first time as parents in registration:-

*Angulica eberia*; *Angulica hohenlohii*; *Brassia rhomboides*; *Dendrobium gonzalessii*; *Epidendrum medusae*; *Lycaste barringtoniae*;  
*Lycaste eberiana*; *Lycaste loati*; *Lycaste janseni*; *Lycaste luminosa*; *Lycaste micheli*; *Lycaste peruviana*; *Mormodes elegans*;  
*Mormodes uncinata*; *Oncidium mendax*; *Ophrys spheeris*; *Ophrys luciflora*; *Orchis fragrans*; *Paphiopedilum helense*; *Pleione grandiflora*;  
*Polystachya bicarinata*; *Polystachya concreta*

† Species name new to registration

*Paphiopedilum dianthum* - first time in use as a parent as a species distinct from *parishii*

CORRIGENDUM - *Orchid Review* list of

January/February 1998, *Corrigenda* - November/December 1997 should read .....in honour of Beverley Lou Woodward

CORRIGENDUM - *Sander's List of Orchid Hybrids 1991-1995*

p.650 Paph. Memoria Milton Grove: originator should read Geyserland

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## Cattleyas

Autumn flowering cattleyas are now maturing their growths ready for flowering. Make sure your plants get plenty of light (without burning) and air circulation. If your plants have been out in the shade house over the summer period, now is the time to bring them under shelter. Before bringing your plants in give your flowering house a good clean. Remove all weeds from under benches. Spray with DIURON after you have removed your weed population. The DIURON will stop the germination of the weed seeds that will still be on the soil. If you have algae on the roof and sides, spray with HY-SAN®. A couple of applications and there presto – no green algae! If the benches are made with a timber you can treat the timber with a timber preservative (usually a copper product.)

Before placing your plants on the bench, check for diseases and scale insects. If there are fungal problems spray with the appropriate fungicide. If scale is present you can use PEST OIL or a mixture of NATRASOAP® and SPRAYTECH OIL®.

If plants have over grown their pots you can "pot on" into the next size pot. Seedlings can also be potted on. After potting drench with a rooting hormone or you can use CROP MAX®. In fact it is a good idea to use CROP MAX® in with your favourite fertiliser.

Once all plants are under cover a few pellets of ORGANIC LIFE® spread around the top of each pot will give your plants a quick boost. A weekly application of GARDEN PARTY® will keep your plants in good condition up until the cooler weather arrives.

Watering should be done just as the medium starts to dry out. When you water – make sure plenty of water is applied to flush those undissolved salts from the pot.

## Cymbidiums

Flowering time is here again! With our hybridists breeding earlier and earlier plants it won't be long and we will have a cymbidium on the lounge room table every month of the year. Most of the plants that are in bloom now are either minis or intermediates. Under the new judging rules that the Cymbidium Club of Australia has adopted, flowers will no longer be called standard, intermediate or miniature. Instead they will be classified by flower size i.e. under 60mm, 60mm to 90mm and over 90mm.

Well what should we be doing with our plants now? Clean out the flowering house. Clean up all old husks off plants – remove all old yellow leaves and old dead flower spikes. Remove weeds.

Once plants have been cleaned up, check under leaves for two spotted mites. If present in large quantities you may like to introduce some predaceous mites into the collection. If you only have a few fragmented outbreaks of mites – spray with D.C. TRON PLUS® oil. Remember do not spray oils on your plants once buds start to emerge from their sheaf. If you do, you may get quilling of the flower segments.

Give plants a thorough spraying with a good

general such as MANCOZEB, ZINEB or CHLORONIL. This will help control leaf spots over the winter period.

Watch your watering. Water in the mornings only on sunny days. Plants should be kept just moist. This will probably be approximately every three or four days.

Fertilise weekly with HSO 12. Water well before fertilising. You can still use a balanced fertiliser on your non flowering plants and seedlings. Seedlings can be potted on before winter arrives.

Remember – place all plants under cover as soon as the flower buds emerge from their protective sheaf.

## Natives

There is a varied and interesting range of native orchids in bloom at this time of year. The best known group is the *Dendrobium bigibbum* complex and the multitude of hybrids bred from them. There is something special about the spectacular mauve-pink blooms of a well grown and flowered specimen. There will also be some Sarcanthinae hybrids and *D. capitissork* and its hybrids in bloom.

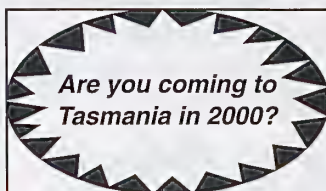
As well as the flamboyant tropical plants, there are a number of much smaller, but intriguing natives in bloom. These include some *Bulbophyllum* species, both tropical and southern in origin, and some other odds and ends such as *Dendrobium schneiderae*. You might

need a magnifying glass to get a look at some but they are well worth it.

The cooler weather also sees the return of the deciduous terrestrial natives, always an exciting group due to the unique forms.

At home, it is time to get ready for winter. The days might still be quite warm but the nights have been fresh since February and there is always the possibility of frost if you live in a frost-prone area. Any cold sensitive plants that have been sunning themselves outside over summer need to be returned to their protected winter quarters. All hothouse heaters should have been checked by now. This is also the time to look for gaps in heated houses caused by broken glass or vents which will increase heating costs and let in chilly breezes which can do damage to plants. Any summer shading that needs to be removed to let in extra winter sun and warmth should come off soon. Aiming to have this done by Anzac Day is a suitable time for many areas.

Watering times need to be changed to the winter program now. Water early in the day to avoid plants remaining wet and being chilled at night. A good soak to wet the mix thoroughly rather than a quick splash is the best. Try to choose a warm day. If the surface is lightly wet then the water will not penetrate the media in pots. The roots in the bottom of the pot will dry out along with the media making rewetting difficult in spring. It also creates a sheltered environment for pest such as ants.



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August 18-20th – St. Ives Orchid Fair, Sydney

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Fertiliser can also be cut back now as growth slows. Many growers stop feeding altogether over winter. This might help prevent salt buildup from inorganic fertilisers as the plants will absorb in the cold weather and reduced water will not flush the pots.

With the late start to summer in eastern areas this year there is the possibility of new growth being late to mature. Any plants with soft new growth at this time might be better off in a warmer, sunnier place until the growth matures. If the weather turns cold, growth can stop and the pseudobulb will be permanently stunted.

This is a good time to get stuck into cleaning up in general as the days are warm but not hot. Remove any extra debris from under benches to allow free air movement which in turn reduces the risk of fungal problems. Clean up any grass or unwanted plants that might harbour pests. Where I live we have a major caterpillar problem at this time of year and many growers always have a population of snails and slugs waiting their chance. Most weeds will have set their seeds by now but removing the large plants will mean less work next year. Pull any grass and weeds out of pots. The fine roots take all the moisture and nutrients and choke the orchid's roots.

While cleaning up look for any unthrifty plants. They may need special attention. If the root system is damaged, repotting and moving to a protected position might help. There is little chance of getting new root growth now except in warmer northern areas so the plant will need special watching over winter. Planting in sphagnum moss is often the best way to keep valuable plants which have been damaged alive until they produce new roots.

Look for the start of growth of flower spikes for next spring. Many cool growing natives such as *D. speciosum* have developing flower spikes over winter. Care needs to be taken so they are not chewed by pests or snapped off while handling plants.

This is an exciting and busy time for native orchid growers with plenty to see and do.

## *Paphiopedilum*

The days are drawing in, the weather is cooler and the buds are beginning to appear in quantity in the Paph. collection.

Regular – but not too frequent – watering and fertilising should be continued as before. The idea is to prevent the plants from drying out whilst avoiding an almost sodden condition. Fortunately the open nature of bark mixtures allows a fair degree of latitude with watering, but the potting material is breaking down by now and it will hold moisture for longer than it did when fresh. All watering should, by now, be done as early in the day as practicable. Avoid, if possible, watering when the weather is wet – even in the glasshouse.

Shading should be reduced for the winter; this is best done shortly after Anzac Day.

As a general rule the white Paphs, begin to flower around late April, followed by the greens, the reds, the autumn shades and finally the spotted varieties late in the season. Modern hybrids, with their very mixed ancestry, often depart radically from this rule. Many whites, incidentally, do not do well under cold conditions.

If you grow Paphs, for the show bench it is important to avoid crooked or asymmetrical flowers. This is best done by keeping the stems upright and in good light from the beginning. Keep an eye out for buds caught under leaves and take the appropriate action. Whilst the growing stems are too soft to stake within about 50cm of the bud, they can be staked when they are somewhat longer than this. Staking is seldom necessary if the emerging buds are kept in good, even light. It is a good idea to shift plants, as buds are found, to a bright, evenly lit spot where they can be well spaced and, preferably, faced to the north. This area should be well

baited for snails and slugs, which seldom damage paph. plants but have no such compunction concerning the buds and flowers.

A good Paph, is more likely to catch the judge's eye if the flower looks at him rather than at the floor. You can train the flower to look slightly upward by allowing it to open with the stem leaning forward about fifteen degrees or so. The pot should be put in this position when the bud is about to open and kept there for about a week after the flower has fully opened. The bud and stem must always be vertical when viewed from the front, otherwise the lip will lean to one side.

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## CULTURAL NOTES

I do not advocate any kind of manipulation using cardboard, tissues, paper clips or the like. This invariably produces an unnatural looking flower which an experienced judge can spot at a glance.

ants are a problem a dose of Lorsban should get rid of them.

Keep a close watch for mites and spray with a miticide as necessary

### Phalaenopsis

**Watering:-** If weather is very hot and dry then water every morning. In times of heavy or overnight rain it is better to keep plants under a solid roof. As nights become cooler do NOT water late in the afternoon.

**Light:-** Phalaenopsis will still require up to 90% shade, particularly in the tropics.

**Fertiliser:-** Continue as for February/March. Do not fertilise dry plants – always water beforehand. Fertilise weekly alternating over a four weekly cycle as follows –

Wk. 1. Inorganic low nitrogen – Campbells A, Aqua-K, etc.

Wk. 2. Wuxall Foliar or similar.

Wk. 3. Inorganic low nitrogen – as for Wk. 1.

Wk. 4. Organic – Fish Emulsion or Nitrosol. **Pest Control:-** Spray with Mancozeb and Kocide every four weeks or alternatively use Ridomil MZ WP. Use a bactericide such as Physan 20 weekly to help control soft rot.

Use Diazanone, Malathion or Pyrethrum every four weeks to control scale and insects. If

### Vandaceous

**Watering:-** Don't allow to dry out. If orchids are in teak baskets or in pots without potting mix, then water thoroughly every morning. In hot dry conditions, a later afternoon misting is also beneficial. If orchids are in potting mix then watering every second day will probably be sufficient with a misting on alternate days.

**Light:-** Strap leaf vandas, ascocendas and other genera with wide leaves require 50% to 70% shade. Semi-terete and other narrow leaf types require less.

**Fertiliser:-** Continue as for Feb/March. Fertilise weekly, alternating over a four weekly cycle as follows –

Wk. 1. Inorganic low nitrogen – Campbells

A. Flowfeed HP8 or Aqua-K.

Wk. 2. Wuxall Foliar or similar.

Wk. 3. Inorganic low nitrogen – as for Wk. 1.

Wk. 4. Organic – Fish Emulsion or Nitrosol.

**Pest Control:** Fungicide every six weeks (e.g. Daconil, Ridomil MZ WP or wettable Sulphur).

Use Diazanone, Malathion or Pyrethrum to control scale and insects.

## Kenneth Alexander MacPherson Memorial Trophy



The family of the late Ken MacPherson have provided this trophy, which is to be awarded annually on the recommendation of the committee advised by the judging panel of the ANOS Northern Region Council Inc. The award is open to any plant, species or hybrid, of any Australian native *Dendrobium* sect. *Spatulata*, which has been awarded or given a first placing at any open show judged by a recognised judging panel. Eligible growers are to be members of any Queensland orchid society or of the ANOS Northern Region Council Inc. Further enquiries should be made to The Secretary, ANOS Northern Region Council Inc. PO Box 5611, Stafford Heights, Qld 4053.

The inaugural award has been made to Rosanna and Eric Beltrame (pictured) of Ingham for their plant of *Dendrobium discolor* 'Abergowrie'. The trophy was presented last September at a special dinner of the Herbert River Orchid and Allied Plant Society.





# Cymbidiums

KING OF THE ORCHIDS

PRESENTED BY THE AUSTRALIAN CYMBIDIUM SOCIETY INC.

## Editor's Report

### Welcome Rob and Noe Smith

It is with a great deal of pleasure that I introduce readers to the two new faces on the Australian Cymbidium Society Editorial Panel... Rob and Noe Smith, who are known by many South Australians and by now, many Victorians as well, since their move from Whyalla, in the driest state of the driest continent in the world, to the much more sublime area of Rosebud on the lovely Mornington Peninsula in Victoria. Already their help to an ageing dinosaur has been invaluable and we all stand to benefit from their enthusiasm. We also welcome readers to this new introductory page to our *Cymbidium* section. Our National President has opted to refrain from making a report in each issue, choosing instead to bring relevant information to you when he feels it is pertinent.

### Award of recognition

Throughout the 1960's, 70's and 80's I'm sure many South Australian *Cymbidium* enthusiasts would well remember their visits to Adelaide Orchids at O'Halloran Hill. It was a classy establishment, with a lovely display area and three wonderful people always cheery and smiling to greet you, Syd, Shirley and son Stephen Monkhouse. For many, this was an era unsurpassed for *Cymbidium* enthusiasm and exciting times in the orchid world. Indeed, the history of cymbidiums in South Australia would have been much less were it not for the wonderful contribution of the Monkhouses. During his tenure as President of the Orchid Club of South Australia it became the premier orchid club in Australia. Syd's leadership and inspiration led to many of the greatest orchid events ever

seen in this state. Who could ever forget the majestic Spring Shows held in John Martin's auditorium and the Wayville Showgrounds... or Orchids '86, the greatest "orchid spectacular" I have ever seen... and to top it off, the Asian Pacific Orchid Conference in 1989. Syd Monkhouse was the driving force behind these events. In recognition of his great contribution to cymbidiums, Syd was granted the Australian Cymbidium Society Award in Appreciation of Services to Cymbidiums on the 25th of August 1999. Thank you, and congratulations Syd Monkhouse.

In other reading in this issue, Kevin Black brings us, *Fred Weir... this is Your Life*, an insight into the life of one of Sydney's great *Cymbidium* characters. This article was prompted by a picture taken of Fred while in Adelaide for last year's National Show.

Graham Morris, new proprietor of Valley Orchids, details a report on *The New Valley Orchids* and what it will offer *Cymbidium* enthusiasts in the future.

Rob and Noe Smith bring us a serious yet often humorous account of their adventure in *Changing Shadehouses...* in which you will find some helpful hints if encountering a similar situation.

In continuing my past efforts, I once again put pen to paper to bring you my *Eye-catching Orchids at Ararat 1999*. I was also prompted to bring you an illustrated account of *Making new hybrids*, which should now make this an easier exercise for beginners.

Finally, Greg Bryant asks, *Why is doing the right thing so difficult for some people?*, in response to Graham Guest's request for ethical behaviour.

Good reading, growing and showing. ■

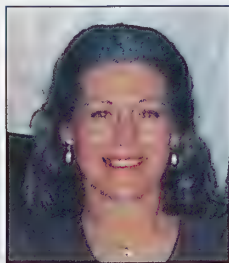
Dean Roesler  
Editor

## Editorial Panel



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**Rob Smith**

24 William Hunter Court  
Rosebud, Vic 3939  
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For further details contact

Secretary, William Jablonski,  
Orchidland Nursery, 7 Nicholli Place,  
Kenthurst, N.S.W. 2156  
Phone: (02) 9654 9464,  
AH (02) 9654 8189

President, Mal Ferguson,  
Phone: (02) 9871 8993

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Main Meeting commences 8.00 p.m.

Venue: Masonic Hall, Fisher Street,  
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For further details contact

Secretary, Yvonne Longbottom,  
12 Joanne Terrace,  
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Phone: (08) 8258 3435  
President, Ray Brady,  
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Meetings are held on the 1st Thursday of each month (except January and February)

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Main Meeting commences 8.00 p.m.

Venue: Redcliffe Hall, Morrison Road,  
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Secretary, Mrs Jacqueline Davies,  
PO Box 40, Guildford, WA 6935  
Phone: (08) 9279 4634  
President, Peter Wise  
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### THE CYMBIDIUM ORCHID SOCIETY OF VICTORIA INC.

Meetings are held on 2nd Tuesday of each month (except January)

Popular Vote commences 7.50 p.m. —

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Venue: Mt. Waverley Youth Centre,  
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For further details contact

Secretary, Kevin Brown,  
4 Riviera Street, Mt Waverley, Victoria 3149  
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President, Andy Leamon,  
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# Syd Monkhouse's History of *Cymbidium* Growing in South Australia

by Syd Monkhouse

*Cymbidium* orchids were not being grown very successfully in South Australia up until the late 1950s. The problem was mainly in housing, with most growing them in glasshouses which were too hot. Only in the latter '50s did methods shift to shadehouse conditions, and several growers began to have reasonable success.

In the early 1950s Dos Pueblos Orchid Co established an Australian branch in Dee Why, New South Wales (NSW). They produced what I still consider was the best *Cymbidium* orchid catalogue ever and it was this publication that tempted me in 1957 to purchase my first three *Cymbidium* seedlings. These eventually deceased without flowering by 1960, by which time I had acquired several plants of other genera.

1960-61 were important years for orchid growing throughout the country and particularly for the Orchid Club of South Australia.

The first event probably was a dispute in the NSW Orchid Society which saw their Secretary, Jim Lawler, resign. What made the event significant was that Jim Lawler, and several sympathetic friends in Sydney, established the Australian Orchid Society (AOS).

One friend of Lawler's was Charlie Wilson, who happened to be friendly with several South Australians. The result was



Syd and Shirley Monkhouse at the 1999 National Cymbidium Orchid Dinner where Syd received an award from the Australian Cymbidium Society Inc. In Appreciation Of Services To Cymbidium Orchids

that the Orchid Club of South Australia (OCSA) became an affiliate of the AOS, which was very instrumental in helping OCSA to establish its first judging panel.

The reaction to the AOS was the forma-

tion of the Australian Orchid Council (AOC) by the Orchid Society of NSW and the then main orchid societies in all other states except South Australia, which eventually left the AOS and joined the AOC some 18 months after it had been formed. In retrospect I think it was a pity, but this event saw the demise of the AOS.

In 1961 I joined the Orchid Club of South Australia and almost immediately landed the job of Secretary-Treasurer.

A holiday to Melbourne with Shirley and the family in 1960 saw us attending the Victorian Orchid Club Show at Preston Motors and we were suitably impressed. A large exhibit of cymbidiums caught our eyes and the sign in front of it was significant - "Attunga Orchids - Newly appointed Victorian agents for Dos Pueblos Orchid Co."

I remarked to Shirley, "I wonder if they want a South Australian agent?" This culminated in my writing to Dos Pueblos in Sydney and receiving an affirmative reply and thus our lives were "married" to orchids and particularly cymbidiums, and so Adelaide Orchids was born.

Like everyone else we had our ups and downs with cymbidiums, suffering very much from that common ailment... "Too much advice from too many experts".

Our success was, nevertheless, quite remarkable. We did not go into hybridising in our early years, but there were some other pioneers in South Australia, notably Rex Thompson, who was the first to successfully mericlone cymbidiums in Australia. He also did some early work with colchicine to increase ploidy in cymbidiums.

We improved our collection whenever we could and did buy much of the collection of Paul Miller of California who was the world leader in miniature *Cymbidium* hybridising. Shirley had long been convinced of the importance of miniature cymbidiums and during the 1960's was the miniature *Cymbidium* specialist of Australia. Those that have a plant of the cute early, but obviously misnamed *Cym. Minuet*, can thank Shirley for rescuing it from the shelves at Dos Pueblos.

Dos Pueblos had some excellent showbench orchids and one of the best was a McBeans Orchids produced hybrid purchased in a collection from Judge Burns of Sydney. This fine showbench white was



Adelaide Orchids Exhibit at the 1971 Australian Orchid Conference held in Victoria. Shirley Monkhouse in foreground





Display and Sales Area at Adelaide Orchids in about 1980



*Cym. Winter Fire 'Faultless'* – one of the many outstanding Intermediate Cymbidiums flowered by Adelaide Orchids

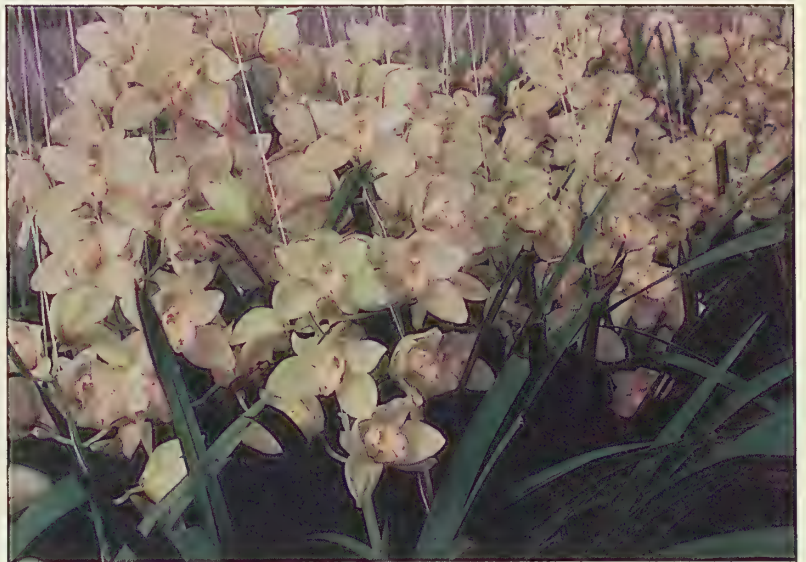
originally named *Cym. Mary Ann 'Frank Slattery'*, which for commercial reasons was changed to 'Simplicity' at Dos Pueblos. I was fortunate enough to buy a plant under the name of *Cym. Mary Ann 'Dr. Martin Flood'* and this flowered to perfection for the 1966 Spring Orchid Festival. It was of course Grand Champion and received an Award of Merit of the AOC. It was during circulation of the award slide that Tom Henry of Dos Pueblos recognised it as *Cym. Mary Ann 'Simplicity'*.

*Cym. Mary Ann 'Simplicity'* AM/AOC was Australian Orchid of The Year in 1967 and became the backbone of our hybridising program where it proved to be an outstanding parent. I still have a plant of it. It was obvious that this fine *Cymbidium* did much to make Adelaide Orchids famous.

The only World Orchid Conference to be held in Australia, the 6th, in 1969, was the biggest international orchid function ever held in this country and, although no South Aussie had ever dared exhibit in Sydney were all the great *Cymbidium* growers resided, Shirley and I realised that we had to exhibit. At that time I was also Registrar of Judges of the Australian Orchid Council.

A couple of years previously we had purchased a very expensive USA *Cymbidium* from Dos Pueblos. This was *Cym. Balkis 'Compact'* which had grown along well and we hoped to have it in flower for the Conference.

It duly opened at the right time and the next job was to get the plant, with its metre high spike, all the way to Sydney from Adelaide (1000 miles) along with 15 miniature cymbidiums and nine other cymbidiums, plus slippers, natives and a



Cut flower cymbidiums for export at Adelaide Orchids around 1984





Adelaide Orchids Display at the 1979 Orchid Club of South Australia Spring Show held in John Martins Store

couple of cattleyas and our backdrops. Our only transport was a HD Holden station-wagon. It did take some ingenious packing, but we managed to arrive safe and sound and the ultimate result was Champion *Cymbidium* for *Cym. Balkis* 'Compact' and enough other prizes to make us one of the main prize-winners of the show. 'Compact' also received an Award of Merit of the AOC and was Australian Orchid of The Year for 1969.

A well remembered comment of nine years earlier from a famous Sydney grower (quite correct at the time) – "You can't grow cymbidiums in South Australia, can you!" – had certainly come home to roost.

By 1970 our fame had spread and we were engaged in extensive hybridisation. We developed our own laboratory which was incorporated in our new nursery when

we shifted from the original Camden Park site to O'Halloran Hill in 1972.

Valley Orchids was established around this time and their interesting work followed on with the plans and plants of Dr. Bob Vandyke in the production of albino cymbidiums and colchicine treatment. With several leading hybridisers in South Australia we very quickly became the *Cymbidium* Centre of Australia.

The Orchid Club of South Australia was very active during the seventies and eighties and became the most powerful club in Australia with up to 900 members. It is my personal opinion that the way the Australian Orchid Council was set up was not in the interests of all orchid growers in Australia in that it was somewhat elitist and very limited in its membership. As President of the AOC during the late seventies, I tried to get a more suitable consti-

tution adopted, however I could not get the support necessary. Now, at last, it appears that the AOC is heading in the right direction – it is a pity that more imagination could not have been used in its formation 38 or so years ago.

We produced many new *Cymbidium* hybrids, but even more important to orchid growing, we gained enormous interest from the public with our commercial methods of really teaching them about orchid growing and caring about their results. Many of today's top growers of cymbidiums, throughout Australia, were students of our potting and growing classes, just ask them!

I will not mention boring lists of past crossings made by Adelaide Orchids except to single out some that are noteworthy for unusual reasons.

We did treat many of our seedling protocorms with colchicine – the idea being that any exceptional ones would already be tetraploids when they flowered. This proved very successful and some amazing results were obtained with one of the most unlikely crossings – *Cym. Lois Kelly* (Ngaire 'Russell Martin' x Araluen 'Fantasy') a red crossed with a pure colour green. We found that *Cym. Ngaire* 'Russell Martin' was a remarkable parent and it was used repeatedly.

Sydney Rothwell of McBeans Orchids fame once said to me, "The only way to choose an outstanding parent is to use many and the results will soon tell you which are the consistently good 'studs'".

The other outstanding production was the novelty *Cym. Scott's Sunrise* 'Aurora' HCC which was the world's first patented *Cymbidium* plant – actually patented under international laws – not the current Plant Breeders Rights which are available but unaffordable to orchid growers.

We also achieved a world first with hybrids of the peloric *Cym. Cleo's Melody* 'Freakout' which exhibited evidence of the peloric parent, these had never been inherited before.

There are many new hybrids being produced now and I believe some of the results are excellent. We did a few crosses in the last years of our business before Stephen, our son took over, with *Cym. madidum* hybrids. These produced little seed but the ones flowered thus far show excellent results of long lasting, very late blooming flowers. Stephen has developed Adelaide Orchids as *Zygopetalum* and *Paphiopedilum* breeders and does not now grow cymbidiums.

What of the new millennium?

Having spent six years now trying to get our orchid world to understand that the truly commercial orchid growers – ie those



*Cym. Lois Kelly* 'Pink Parfait' – an outstanding grex registered by Adelaide Orchids in 1982





*Cym. Balkis 'Compact' AM* - Champion Cymbidium at World Orchid Conference, Sydney 1969, for Adelaide Orchids - 1969 Australian Orchid Of The Year



Adelaide Orchids 1st Prize Exhibit at the New Zealand First International Orchid Conference 1979

growing solely for pot plant sales or cut flowers – are growing thousands of times more orchids than we “amateurs”. If we wish our large international orchid shows to continue to impress the public we should be encouraging these “commercial” to exhibit in our shows.

Also, we should begin to realise that our orchid awards (which we think are so valuable), do not take into account the basic attributes that orchids should have – especially for commercial propagation. We do not consider, “**Production of the plant**”. Its “**Shelf life**” – how well it keeps in perfection. “**How quickly it flowers**” – from a seedling or mericlone. “**Its spike habit**” – for commercial reasons. “**The suitability of its colour**” – for public appeal. “**Its perfume**”. “**Its resistance to disease**”. “**The size of the plant**” – big is definitely not always beautiful. “**The weight of the spike**”. “**The ability of flowers to resist bruising**” – and similar damage. Until we recognise these qualities in some form – I suggest, “**Awards of Commercial Excellence**” – then we have nothing to offer the bulk commercial growers for contributing plants and flowers to our orchid displays, and we will see a falling off of many large exhibitors in international orchid shows – evidenced in a large way in the last two World Orchid Conferences.

I have been effectively butting my head against a brick wall since 1993 on this subject and I am truly amazed at how many world organisations cannot see that the orchid world is continually changing and

clubs must change with it or get left behind!  
It's up to you!!

**Syd Monkhouse**  
PO Box 114  
Seaford, SA 5169



Editor's Note: In later years Syd Monkhouse turned to one of his many other talents, painting orchids. Throughout Australia, many Orchid Clubs benefited financially by the sale of paintings donated to them by Syd. He enjoyed painting orchid flowers onto mens ties (collector's items). Above is a photograph of Syd Monkhouse's painting of *Dendrobium linguiforme* sold on behalf of the Australian Orchid Foundation for \$1,000.

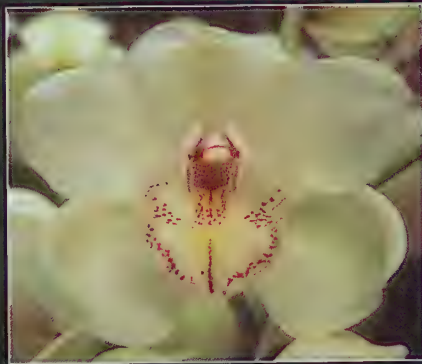


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5 Friar Court, Salisbury East, S.A. 5109  
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# The New Valley Orchids

by Graham Morris

**V**alley Orchids has been a significant part of the *Cymbidium* orchid growing scene, both in Australia and overseas for over thirty years.

Until recently it was promoted extensively and supplied many of the best plants available to growers throughout the world. In the last few years, it has been inaccessible to the general public, rather concentrating on the wholesale pot plant market. The business has recently been sold, and as the new owner, I thought it appropriate to write this article to tell you, first hand, how we intend to operate the business in the future. There has already been a huge number of enquiries from interested parties.

Firstly, I should tell you about myself. I have been actively involved in growing cymbidiums for almost 40 years, starting in my mid teens. I have been an active member of an orchid club almost the whole time. Initially I was a member of the Orchidaceous Society in Adelaide. For a few years when I married and was establishing a home, I had a short break from



Graham Morris

growing orchids, then I joined the Orchid Club of South Australia, followed by the Cymbidium Club of South Australia – of which I am currently a Committee Member. I have regularly displayed plants at these clubs and had good success, winning a few major prizes, plus many other smaller prizes. My recent working background has been as a self employed Design

Draftsman, using computer aided design. My family also operates a takeaway food outlet in a major shopping centre. Experience and training in these areas plus my long orchid growing experience make the takeover of Valley Orchids a viable and attractive proposition.

Last August we took over the laboratory and stud plant collection of Valley Orchids, and at the moment we still also operate the drafting business and food outlet. Life at present is very hectic, working huge numbers of hours each week. On the 1st of May we take over the pot plant production of the existing nursery, and cease operating the drafting business. It is intended to again promote Valley Orchids extensively and make the collection accessible to the orchid growing public.

In the past I have not been a very regular visitor to the nursery, mainly because I live on the northern side of Adelaide and the nursery is on the south side (a drive of just over one hour). I certainly was aware of many of the good plants in the collection. Reports from the few people who had



Cym. Valley Splash 'Red Spot'



Cym. Pink Bonanza 'Highlight'





*Cym. Margaret Thatcher 'Perfection'*

access to the collection gave glowing details of its quality. Only when I started visiting the nursery to assess it for future purchase, did I see the huge number of super quality plants, which very few people anywhere have seen. The nursery is located about 25 kilometres south of Adelaide on about two hectares of land, most of which is covered in shadehouses (black shadecloth), there are however, two houses and a fully functional laboratory on the site. At present the collection consists



*Cym. Mini Beacon 'Stop Light'*

of about 30,000 near flowering size plants, 60,000 smaller plants to flower in the next three years, 1,200 stud plants and a large number of mother flasks in the laboratory. This year we expect to flower approximately 20,000 plants including 10,000 new first flowering seedlings.

Having now "got to know" most of the varieties at the nursery, I am still amazed and excited about the future. The most outstanding feature of the collection is the ability of the plants to produce very large numbers of flowers from each plant. Bob Nicolle, the previous proprietor has always hybridised with only the fastest growing and easiest to flower clones, pretty much ignoring such things as showbench qualities. His results are generally intended for pot plant production, but will make significant impact on the showbench once they are seen outside the collection. I am receiving constant reports and enquiries from growers overseas, who are growing our clones and giving good reports about their performance and seeking further new varieties.

As from early May we will again open to the public, from the nursery at Morphet Vale, and will offer a huge range of plants, most of which have been bred at Valley Orchids, and many which have been in short supply in the past. We will continue to supply large numbers of plants to wholesale markets, so will only be open to the public for a limited time each week, or by appointment.

We have large numbers of new clones already under trial, and expect to obtain lots more as the seedlings flower this coming season. Last year there were large percentages of extremely good varieties produced, so this year we expect lots more of the same high quality. We will select only the best for future cloning, but expect large numbers of extremely good clones to be made available to the public. We already have expressions of interest from growers seeking particular types of new varieties, as they become available. Many nurseries do not make available their best and latest varieties, for fear of mass reproduction by other nurseries once they are released. At this stage we intend to make available all the latest and best, at reasonable prices. We do however, strongly disapprove of clonal proliferation by other nurseries and encourage the orchid growing public to boycott re-cloned varieties. There is a high risk that these clonal proliferations will not be true to form. If this practice is not discouraged, then controlled marketing practices to protect the new varieties will result in the best varieties only being available to special growers.

Valley Orchids in the past have operated a hugely successful hybridising program.



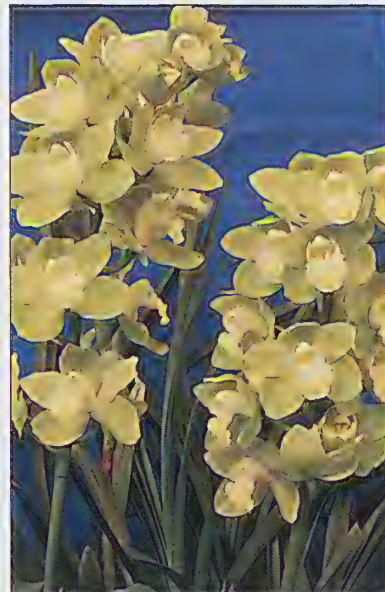
*Cym. Mem. Merv Dunn 'Ultimate'*

Unfortunately, over the last few years no breeding has been undertaken. Last year we initiated a new program and expect to have lots of new seedlings in flask available towards the end of 2000.

Last year we saw the emergence of a few new dominant parent plants. The following produced outstanding results in very high percentage:

*Cym. President Gorbachev 'Diplomat'* – fantastic pinks.

*Cym. Valley Winter 'Lightning'* – great



*Cym. Sleeping Nymph 'Fuji'*



strong pink intermediates.

*Cym. Valley Legend 'Eternity'* – beautiful golden yellows, some with orange splashes.

*Cym. Mini Splash 'Fantasy'* – strong growing yellow intermediates, with orange splashes.

*Cym. Valley Splash 'Awesome'* – producing lovely pinks.

*Cym. Mem. Merv Dunns* – producing super quality pure colour whites and yellows.

*Cym. Valley Regents* – fantastic bright reds.

*Cym. Sleeping Nymphs* – beautiful, strong, pure colour whites, greens and yellows.

The plants listed below were particularly impressive when seen in flower and can be expected to perform well on the showbench, as pot plants, or as cut flowerers:

*Cym. Valley Legend 'Gee Wizz'* – this will win major prizes in shows when available.

*Cym. Chocolate Drop 'Delight'*

*Cym. Cloris Jean 'Perfection'*

*Cym. Mini Beacon 'Stop Light'*

*Cym. Mini Claret 'Royal Reserve'*

*Cym. Pure Sarah 'Starburst' & 'Snow White'*

*Cym. Red Valley 'Brilliant' & 'Abundant'*

*Cym. Sleeping Nymph (various varieties)*

*Cym. Valley Courtier 'Hot Butter'*

*Cym. Valley Crystal 'New Snow'*

*Cym. Valley Legend 'Eternity'*

*Cym. Valley Oracle 'Kermit'*

*Cym. Valley Picture (various varieties)*

*Cym. Valley Regent 'Drumbeat' & 'Reggae'*

*Cym. Valley Splash (various varieties)*

*Cym. Valley Winter 'Lightning'*

*Cym. Zion Valley 'Exquisite' & 'Utopia'*

There are dozens of other great orchids available. These are the ones I liked best.

In closing this article, I invite you to check out the range of plants at Valley Orchids: We have available over 150 varieties in flowering size, large numbers of smaller plants, about 150 varieties in flask, plus huge numbers of exclusive seedlings of all sizes.

We will use the Internet to promote pictures of our new plants, hopefully putting dozens of new photographs on the web, weekly, as soon as the flowering season begins. Apologies to anyone having difficulty in contacting me lately, while I wind down the drafting business. From early May we will operate full time at Valley Orchids and promise friendly and efficient service.

**Graham Morris**  
5 Friar Court, Salisbury East  
South Australia 5109

## Fred Weir... *this is Your Life*

by Kevin Black

**F**red Weir is a retired house builder, having taken up that profession on returning to our shores after serving the country overseas with the Royal Australian Air Force during the Second World War.

He retired in the early 1980's to his home in Oatley, which is in the St. George area of Sydney, New South Wales, where he built most of his houses. Fred of course had decided to grow a few orchids prior to this, to give himself something to do when he retired. He grew cymbidiums and little did he know what this would lead to... it was not long before he was bitten by the BUG.

Fred being the good-natured, affable chap that he is, did not take too long in developing his new found interest, soon making many friends and joining all the local orchid societies, which by his good judgement included the Cymbidium Club of Australia and the Orchid Exporters Co-op, which was located in Mortdale just up the road from his place. At the Cymbidium Club, Fred ran the sales table for many years, carrying out that task with distinction.

It was not long before the quality of flowers in both intermediate and standard cymbidiums that Fred was producing made him an automatic inclusion by the directors to become a shareholder within the Orchid Exporters Co-op, where he exported his *Cymbidium* flowers until the Co-op closed in 1997. Of course, along the way, Fred's flowers won him many prizes, numerous monthly seedling winners, best plant of the night, and class prizes at local shows, which has included Champion Standard *Cymbidium* at an Orchid Society of New South Wales Winter Show.

Through the mid 1980's along with Bob Battye and myself we began swapping some plants and pollen, making the odd standard *Cymbidium* cross. In the early 1990's we began hybridising for intermediate and miniature seedlings, the first of which began to flower in 1998, in particular Fred's cross of *Cym. (Bingo 'Croydon' x*



"It wasn't me," says Fred Weir, standing by the famous Canoe Tree near Currency Creek in South Australia, which had just been vandalised prior to the National Cymbidium Orchid Show in Adelaide and was bearing visible signs of its ordeal. Fred, blamed for getting up to mischief in the past, wasn't going to let the South Australians pin this one on him.

Hazel Tyers 'Santa Maria') which is producing white through to mid-pink flowers with red dotted to red barred lips, almost all have good upright spike habit. This cross has been registered as *Cym. Bing Santa*, and much more will be seen of it in the future.

A couple of years ago Fred was complaining about the lack of sun light that was penetrating through his bush house to his plants, after much discussion it was felt that a large "monolith" near by was the culprit. Quite mysteriously over some time this great obstacle gradually wilted; *and lo and behold, it came to pass, the light returned to Fred's shed, and the butt of the "monolith" became a table!*

Over the years Fred has been tagged with various nick-names (which he hates), *The Proud Old Builder*, or his latest tag *Roundup*. However, I affectionately call him *Dad*, as he is older than me and he bears a resemblance to my own father. Above all he is a good friend and a bloody good grower of cymbidiums and a champion snooker player to boot.

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## Letter to the Editor

# Why is doing the right thing so difficult for some people?

The Feb/March 2000 AOR contained a number of things I found disturbing. In particular I was amazed by the hypocrisy so unashamedly exhibited by Graham Guest in his article "Why the Subterfuge?". To me it is extremely unethical to deceive or mislead orchid growers by **deliberately** incorrectly labelling or mislabelling orchid hybrids.

Before the National Show in Adelaide, Graham had told me that he was considering putting variety names rather than the registered names on his varieties to protect the "intellectual property" of the parentage. Therefore it came as no surprise when Guest Orchids plants that were exhibited in this show had names that were (to quote Graham) "bogus".

The cliché that "People who live in glass houses shouldn't throw stones" appears to be ignored by Graham. It is hypocrisy to call for ethical behaviour unless you are prepared to practice what you preach. The Guests have produced a number of books on cymbidiums. Graham states in his "Why the Subterfuge?" article that we can find out the parentage of the "bogus" hybrids in his latest book – "I've Got Spikes!". Some of the parentage does appear in this book and some doesn't. What I did notice in this book was a statement that "... over reliance upon this genetic material (Early Bird hybrids) without infusion of complementary genes has resulted in high spoilage rates – the Winter Fair line is a classic example". Was it just our grapes when second generation Cym. Winter Fair hybrids took out Grand Champion and Reserve Champion at the National Show in Adelaide that inspired such a stupid, misleading statement? In an article later this year I will point out the superb results achieved from Cym. Winter Fair based breeding lines. My reaction to *I've Got Spikes* is that I've got better books. "Cymbidium Mania" was another book written by the Guests and contains an updated listing of Cymbidium hybrid Registrations.

Why write a book like this and then choose to use bogus names? I find Graham's actions hard to understand and don't see that "doing the wrong thing because someone else is" can ever be justified.

There has been a lot of misinformation about cymbidiums carrying alba genes. Unfortunately there have been claims that Cym. Vanguard 'Mas Beauty' and certain Cym. Red Beauty hybrids carry the alba factor. This information appeared in the book "More Cymbidiums" (also written by the Guests), for example, and we have seen an article by Andy Easton in the AOR apologising for his role in saying that Cym. Red Beauty 'Carmen' carried alba genes. People should realise that Cym. Vanguard **doesn't** carry alba genes. Both Alvin Bryant and the Larsons in New Zealand crossed Cym. Vanguard with various alba Cym. Rose Armstrongs (registered as Cym. Neville Armstrong) and did not obtain any alba progeny. If Cym. Vanguard carried alba genes then 50% of the progeny should have been albas (both Cym. Vanguard and Cym. Rose Armstrong were diploid). In Bill Johnson's article "Profiling – Cym. Zumma Boyd" there is an assumption that Cym. San Miguel 'Kirrawee' carried alba genes. This is not correct as far as I am aware because Alvin Bryant did crosses with both Cym. San Miguel 'Kirrawee' and Cym. San Miguel 'Sutherland' in 1964 with

Cym. Sussex Dawn 'Dorothy May' (a known alba carrier and one parent of the famous Cym. Sleeping Beautys) and obtained no albas. If the Cym. San Miguels carried alba genes then 25% of progeny would have been albas. Further crosses made by Alvin with Cym. San Miguels subsequently proved them not to be carriers of alba genes. Claims that certain Cym. Zumma Boyd hybrids, especially certain Cym. Valley Zeniths, are carriers of alba genes should be treated with some caution. If eventually an unhappy customer sues a hybridist or author for misrepresenting a Cymbidium orchid as carrying alba genes when this is not the case, we will see a lot more cautious behaviour by certain authors and hybridists.

To sum up I would like to emphasise that individual people have their own idea of what is and isn't ethical. Ethical standards usually reflect the majority of individual opinion. Most people regard honesty and the truth as being important and also have a good idea of what is and what isn't "the right thing". Therefore I see education and discussion as being the only way to inform orchid growers as to what is acceptable practice. Unfortunately there will always be some people who deliberately shun ethical practices, but they will only be a minority.

**Greg Bryant**  
22 Cook Street  
Kurnell, NSW 2231

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# Eye-catching Orchids at Ararat 1999

Text by Dean Roesler – Photography by Michael Matthews

**W**earry bodies wended their way once more to Ararat for the Australian Cymbidium Festival held from 11th to the 12th September 1999. For some exhibitors the effort of fronting up after the week long National Cymbidium Orchid Show in Adelaide just two weeks prior, and having travelled such long distances, was beginning to show. Nevertheless, this Festival once again reached the high expectations we have come to anticipate of it. For the genuine *Cymbidium* enthusiast there were again some nice new eye-catching orchids on display.

My number one choice was the very pretty standard *Cym.* (Pure Zumma x Dorothea Paige) 'Sweet & Sour' exhibited by Kimberley Orchids. The creamy/green background colour of the segments was heavily brushed with a dark satsuma plum colour, a very eye-catching combination



*Cym.* (Pure Zumma x Dorothea Paige) 'Sweet & Sour'

indeed – highlighted by a white labellum with blood red markings. From Peter Sunderland's own hybridising program... well done Peter.

*Cym.* Electric Ladyland 'Peats Ridge' (Claudona x Red Panther) exhibited by Terry Poulton was a nice vibrant brown standard, made so by the underlying yellow in the segments which gave it a chestnut-brown appearance. The labellum no doubt was heavily influenced by its *Cym.* Claudona parentage. Not the first time it's been seen at Ararat, but on this appearance it showed significant improvement.

I'm a sucker for bright green cymbidiums like the small standard, *Cym.* Jingerra 'Jill' (Borough Green x Ovation) exhibited by Moss Bray. It was a combination of "crisp" green segments with classic white labellum and red markings. These two parents have produced some lovely results.

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*Cym.* Electric Ladyland 'Peats Ridge'



*Cym.* (Hazel Tyers x Real Vision) also exhibited by Moss Bray was a delicate, powder-puff pink standard, with a complementary white labellum beautifully marked with a burgundy band. I predict we will be seeing a lot more lovely seedlings from the *Cym.* Hazel Tyers line of breeding in the future.

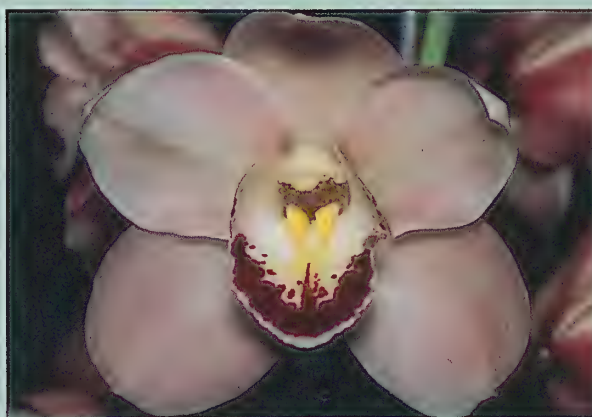
David Keanelly exhibited a number of very beautiful seedlings from the cross of *Cym.* (Valley Regent x Red Valley). The fusion of *Cym.* Rolf Bolin genes from both parents is evident. Small standard flowers of deep purple/red colour, a nice white labellum with heavy red barring, together with white edged segments, made this one a real eye-catcher.

*Cym.* (Lerwick x Vivacious) exhibited by Malcolm and Velda Osborn won two major prizes – Champion Intermediate as well as Champion Intermediate Seedling. A lovely blush coloured flower... white with light pink brushing. The beautiful soft pink fusion on the labellum, and odd burgundy dot below the bright yellow keels, make this a very desirable orchid.

**Dean Roesler**  
**Lot 14 Lawson Road**  
**Kalbeeba, SA 5118**



*Cym.* Jinggerra 'Jill'



*Cym.* (Hazel Tyers x Real Vision)



*Cym.* (Valley Regent x Red Valley)



*Cym.* (Lerwick x Vivacious)



# Changing Shadehouses...

by Rob & Noe Smith

**M**oving an orchid collection from one home to another was a daunting job we *never* wanted to undertake, but an inevitable job transfer changed that. After all, as orchid growers our priorities are not completely mad (despite the rumours), although our children think we are! Quite matching our feelings, the stunned look on our mover's face was priceless when he came to quote and we led him out the back door into the orchid house (which was our whole yard). He'd already told us he was

used to moving plants, but I think he was expecting something like a couple of dozen plants. We'd told him over the phone that we had quite a few orchids to shift (at that stage we still had around 3,000 plants in our collection). He ended up coming back at least twice more to assess the space needed for them... either that, or he *couldn't* believe what he'd gotten himself into! In the end it was decided that we'd need one truck for household goods and another for the plants.

The following months were an orchestrated chaos of backbreaking work and 16-hour days of packing twenty years of accumulated belongings, completely renovating the house inside and out (including the garden) in preparation for its sale after we'd vacated, with plenty of moments of wondering what on earth we were doing. With any move there comes a degree of uncertainty and things never quite working out as we imagine they will. That certainly applied to us, and our orchids.

Before the move from South Australia to Victoria we took some tough decisions. We knew that when we arrived at our destination it would be temporary rented accommodation and that our orchids would have to survive in less than ideal conditions for anything up to twelve months. We were moving to the Mornington Peninsula, an area dotted with lots of small towns, and we didn't have a clue about where we would end up buying our next house. As a result, we knew it was necessary to reduce our collection to something more manageable and capable of surviving some fairly tough conditions until we eventually got settled. So, a collection of paphiopedilums we'd built up over ten years was sold off or given away, with the exception of about a dozen cold tolerant species and hybrids; our cattleyas and oncidiums shared the same fate; and, large native dendrobiums were also farewelled as space was at a premium. Our mature cymbidiums were culled to half their numbers and those remaining were divided with 3-4 bulb pieces being kept. Even so, we still had over 1500 plants, including compots and they filled 75% of a moving van when it came time to load them.

Trying to rent suitable accommodation, long distance, is an experience. Both the phone and fax ran red hot up until about an anxious three weeks before our moving date. We learnt that a large orchid collection is viewed with the same dismay as pets and children by landlords, but, however, the miracle we needed did indeed occur (in great part due to the heroic efforts of a wonderful real estate agent), and we had an address. You can't imagine the relief!

Thanks to a very dear friend, who spent a lot of time scouring Whyalla on our behalf, a large collection of suitably rugged travelling boxes (which turned out to be heavily waxed fruit and vegetable cartons) were gathered together to pack our plants into. The idea was that we would take our benches with us, stacking them to the roof in the truck, upside down and packed with boxes of orchids. This method worked well because we'd had the "foresight" to construct our benches with supporting feet in the first place so as to stop them from burying themselves in the shadehouse floor.

## Schaefer's Orchids

We are Australia's leading producer of standard and intermediate cut flowers and pot plants. We produce a huge bank of new varieties each year and select the best of these for our cut flowers, pot plant and show-bench uses.

### *Cymbidium seedlings: Packages and Flasks*

Due to the expansion of our cymbidium business, we regret that we are no longer able to offer seedlings in flasks in non-commercial quantities or show-bench packages on a retail basis. Consequently there is no current catalogue available with these listings. We would like to thank our customers for their past support. We still intend to offer a limited number of open Saturdays in future years.

### *Mericlones*

We hope to announce shortly a major expansion in our offerings of show-bench cymbidium mericlones. These have been specially selected from our extensive collection and are currently being grown and tested specifically for showbench requirements.

### *Commercial orders*

We have been able to extend our range of commercially available cut flowers and pot plants as our two nurseries allow us to increase our production significantly. We continue to have available our excellent value commercial offerings as follows:

1. Flasks – Call us and discuss your requirements and we will replate to order from our top cut flower and/or pot plant crosses for standards and intermediates.
2. Community Pots – Excellent value packages available in mixed colours to suit your pot plant and/or cut flower needs.
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Commercial growers – phone us to discuss your requirements. Nursery is open by appointment only. Please phone and discuss a time. Nursery closed from 23 December, 1999 to 1 February, 2000.

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Fax (02) 9653 2263

AOR 085A



You gotta get lucky sometime! We had to agree that the waxed cartons were also "luck" because' unfortunately, after watering the plants so that they would be ready for moving next day (not too wet and heavy) and putting them in their boxes it rained for two solid days, leaving us handling sodden orchids anyway, but in dry boxes. So into the truck they went for their two days in the dark, dripping wet in soaking mix, while we stood in our driveway, also soaking wet, watching our precious plants disappear into the distance. You couldn't blame us for wondering whether we were a little bit mad after all, could you? With orchids and furniture on the road, we followed in a loaded-to-the-gills family sedan and, with our son as driver so we could relax into exhausted comas at will, we lit ceremonial cigars at the last set of traffic light to celebrate embarking on our new adventure.

As Murphy's Law would have it, the easterly weather front which brought the rain to a normally dry Whyalla, moved to Victoria with us. It rained all the way and, of course, we duly unloaded our sodden orchids in the pouring rain at our new place, unpacking them onto the benches pot rim to pot rim. You'll notice that no mention has been made of packing and unpacking furniture in the rain and what kind of a mess that made in both places. That's another story! Anyway, there our orchids stayed for six months through their first Victorian summer, which included the hottest December day for fifty years and, according to the weatherman, the worst summer heatwave for a century. You wouldn't read about it would you? In reality, the conditions they experienced in the open in Victoria were probably about the same as they were used to in the shadehouse in Whyalla so, with some expected leaf-burn, they grew quite well as they had plenty of air movement and lots of lovely Victorian water.

We immediately joined the Mornington Peninsula Orchid Society and the Cymbidium Orchid Society of Victoria where we were introduced to lots of people (some of whom we knew by name or through orchid friends in SA), and isn't coming into contact with great people one of the best things about orchid growing?

We were used to a climate where humidity was very low in every season (except winter), to the point of being virtually zero in the worst of summer when the temperature soars into the forties and desert winds reach thirty knots or more. A climate where protecting our orchids from too much light and heat was as important as providing enough light and heat is in Victoria, and we needed the advice of experienced growers here where the climate was vastly different from the conditions our culture was adapted to. Changes in orchid culture weren't the only changes to get used to either. The first time we used the washing



Shadehouse in Whyalla, South Australia

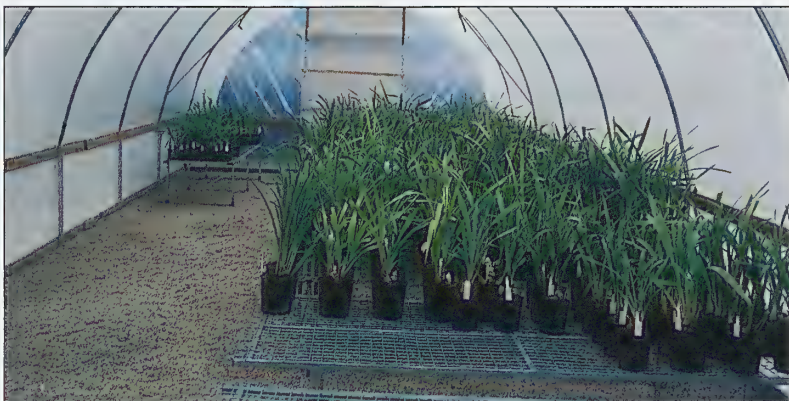
machine the detergent took on a life of its own. A good dollop of our usual measure of concentrate (no economical capful works in Whyalla) and, as the water poured into the machine, the suds poured out. Bucket after bucket of foam was skimmed off and still it grew like a laboratory experiment gone wrong. This also applied to dish washing liquid and shampoo too... arrgh! Mind you, we soon realised that we could afford more orchids with what we save in soap.

Despite the rough treatment, our orchids were producing spikes by the end of sum-

mer, and in good numbers too, especially the cymbidiums. They didn't seem to mind that they were crowded together, although we wouldn't recommend the practice. Also, by this time, we'd found and bought our new home at Rosebud on the eastern side of Port Phillip Bay. We'd learned that this area's climate should be ideal for our orchids, being essentially frost-free with moderate weather, as the peninsula is about 10 kilometres wide here and, with sea on both sides, the temperature extremes are kept in check. We packed our plants into their boxes once again and moved here in May and we're nicely situated about 2kms inland in an area of quarter-acre to two-acre blocks with plenty of bush and hills (and the sound of Rosellas and Kookaburras to name a few) around us. It's far away from Whyalla saltbush, myall scrub and dusty, red-coloured sheep. This second orchid move was not quite without incident. We hired a van and moved them ourselves this time, a few days before the furniture was due to go. It took two trips and a lot of effort to get it all done as it was a lot more struggling and heaving than we thought it would be. On the last trip, when we were all tired, everyone got a real scare when a loaded bench slid gracefully off the truck's hydraulic ramp taking a worker with it who landed quite ungracefully, but spectacularly, with legs in the air in a tumble of



Our collection on arrival at their new home in Rosebud, Victoria



Repotted and moved into their new home in Rosebud, Victoria





PHONE: 0412 391 989

ORCHIDS OF STRATHALBYN

## Cym. WHITE VALLEY 'BECKY' A.M./O.S.C.O.V. AND A.O.C.

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\* 2 bulbs and lead Mericlones @ \$50 each or 2 for \$90.

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\* Struck back bulbs @ \$20 each or 2 for \$30.  
(6" to 10" leaf length)

\*\*\*\*\*

\*\*\* Seedlings that have produced outstanding results are now  
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T339 Cym. CHOCOLADA X WHITE VALLEY 'BECKY' = CHOC VALLEY

T336 Cym. CHOCOLADA 'THE GIANT' X TONGARIRO 'GREEN APPLE'

T330 Cym. STRATH BEAUTY = (LAURA ARDA X CHOCOLADA 'THE  
GIANT')

T327 Cym. (TONGARIRO X SLEEPING DREAM 4N) X (CHOCOLADA  
'THE GIANT')

T325 Cym. WHITE VALLEY 'BECKY' X VALLEY WAND

T324 Cym. CHOCARUNTA = (CHOC X ARUNTA) -

Flowering size @ \$15 each are available

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GIANT'

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T337 Cym. (HAMSEY X LOIS KELLY) X CHOCOLADA 'THE GIANT'

T332 Cym. CHOCOLADA 'THE GIANT' X SLEEPING DREAM 'CASTLE' 4N

**Bulb & Lead @ \$10 each or 12 for \$110**

**2 Bulbs & Lead @15 each or 12 for \$165**

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\*\* Orders now being taken for flasks of 25 mericlones @ \$85 each -

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\*\*\*\* Cash with order, thankyou. \*\*\*\*

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## CYMBIDIUMS AUSTRALIA

plants and pots. Thankfully nothing was injured but pride, as the fall happened (as these things tend to do) in front of a full audience of moving-inners and moving-outers and respective helpers and neighbours. Well, having managed to get our plants in spike into their boxes, it was quite another matter to get them out again, still in spike, which was why we decided to leave them there, and which has consequently led to a bit of a running commentary on the merits of "culture in wax boxes".

It's now spring, almost twelve months after leaving South Australia and we still consider this our last move for ourselves, and our orchids, which have been living in their boxes on benches out in the open awaiting completion of their new home, a solid-roof tunnel house 50ft long, 16ft wide and 10ft high, with roll-up side curtains. Just as nice as the place we found for ourselves. We already think about whether it will be big enough, but we have plenty of space for another should we need it... and yes, we've moved the clothesline!

Now our job is to get stuck into repotting the whole collection. There are plants splitting their pots and compots which really should have been broken up months ago or more. You know it's overdue when the plants are flowering in their compots. Mind you, it does show crossings with potential when they're flowering on bulb and lead plants in bonsai conditions, doesn't it? Four out of twelve in the case of one compot... not that we're boasting about a shameful state of affairs. Still, in another twelve months our plants, hopefully, won't know themselves. Clean new leaves on healthy new growths and, if they flower at least as well as they did last time, in spite of their rough treatment, we'll be happy.

If we've learned one thing from the experience it's that orchids, particularly cymbidiums, are plants with very simple needs as long as their basic culture is maintained (regular water varied to suit the weather, air movement, light and a little food) they will look after the rest. Of course our plants and their flowering's weren't up to any kind of show standard this year, but the extra care they'll get from now on will soon restore them to their best.

As we said in the beginning, things didn't quite work out as we'd imagined. Mostly, we think, because our worst fears were proved wrong. Virtually all of our precious seedlings survived, although they probably grew more slowly than they otherwise would have. We came to know lots of incredibly kind, helpful and friendly people who have made us feel so welcome and who have gone out of their way to make us feel part of the orchid scene here in Victoria. Growing orchids is a truly wonderful thing, isn't it?

**Rob & Noe Smith**  
24 William Hunter Court  
Rosebud, Victoria 3939



# Making new hybrids

by Dean Roesler

**H**ave you ever thought about how you would like to make a new hybrid, but don't quite know how it's done? Well, it really is very simple! It can be a fascinating experience too, as well as a rewarding one.

For survival in nature, *Cymbidium* species rely on being pollinated by an insect attracted to the flowers by perfume and colour. This phenomena can be observed in "the wild" when coming upon a plant "well hung" with numerous, developing seed pods. I have seen *Cym. suave* near Bermagui, New South Wales, carrying a dozen or more pods on quite small plants (one would imagine larger plants being even more productive).

Man however, being "smarter than the average bear", has over the past 100 or so years done much better than the insects. Hybridists, through selected breeding have produced a wonderful and startling array of hybrids which, when compared to the dozen or so species from which they have evolved, defy comparison!

Just a word of warning though before you start... this is not an overnight project, for it will take you between four to seven years to see the results of your efforts. Remember too, it will cause some stress to the "pod bearing plant" and will exclude it from being shown while carry pods. As well, it may be a costly disaster if the parents you use are not of a very high standard.

For beginners wanting to try their hand at hybridising, this article explains step by step the necessary procedures.



Illustration No.2

(Illustration No.1) Toothpicks (preferably the flat type) are ideal for transferring the pollen from one flower to another. Labels to record the details of the cross are a necessity and don't forget to use a pencil that won't wash off.

(Illustration No.2) The anther cap, or what is more commonly called the pollen

cap covers the pollen until such time as it is required for hybridising.

(Illustration No.3) Beneath the pollen cap are two grains of pollinia, rich yellow in colour, and attached by a thin membrane to a sticky pad at their base. By placing a toothpick at the base of the pollinia and gently lifting upwards, the pollen is



Illustration No.3



Illustration No.1

## "The best fragrance of all..."

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Illustration No. 4



Illustration No. 5

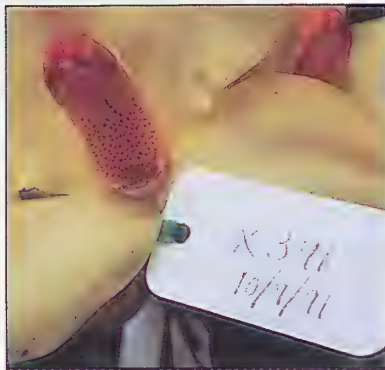


Illustration No. 6



Illustration No. 7



Illustration No. 8



Illustration No. 9

removed from what we call the "pollen plant" and is ready to be used for making our cross. Part of the pollinia, one grain, or both grains may be used.

(*Illustration No.4*) Pollinia on a toothpick ready for transferring onto the "pod bearing flower".

(*Illustration No.5*) Remove the pollen cap and pollen from the flower to be pollinated. Below the base of the pollinia is the stigma, a cavity containing a sticky, jelly-like substance into which the pollinia is placed. This substance causes the pollen to germinate, the pollen tubes then grow down the column into the ovary where fertilisation of the embryonic seeds take place.

(*Illustration No.6*) Immediately after pollinating a flower attach a label with the relevant details of the cross, including the date. The flower shown has been pollinated for a number of days and shows the stigmatic cavity having enclosed the pollinia. Note also how the column has turned red, a good sign that the flower is responding to stimulation by hormones from the pollen.

(*Illustration No.7*) About one month after the flower has been pollinated, the top of the column has swollen quite considerably. This is a good sign. However, it will still be at least another five months before the pod is "ripe" and the seed ready to be sown. Note how the flower has had the segments removed to minimise fungal attack on the developing seed pod.

(*Illustration No.8*) After about six to nine months the seed pod is ready for "green pod culture", where it is harvested and the seed taken from the pod under sterile laboratory conditions... this is the most common method for seed propagation.

(*Illustration No.9*) A mature seed pod cut in halves showing the abundant amount of seed that can be expected from a very viable and fertile cross. The seed is minute and almost "dust like".

From my own observations I find it much easier to have seed pods go their full term when the pod bearing plants are kept in a cooler, darker area than the plants would normally be kept in. On days of extreme temperature it will help if the pods are sprayed with water occasionally to cool them down. If your pod appears to be "yellowing" before becoming fully matured it generally indicates that the pod has very little or no viable seed in it.

Before harvesting your pod arrange for it to be processed by a reputable orchid laboratory. In small quantities (50-100) the seedlings will cost you about one dollar each, a small outlay for what may well be a Grand Champion.

Dean Roesler  
Lot 14 Lawson Road  
Kalbeeba, SA 5118



## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>Queensland</b>				
1-2 April	TBA	Autumn	Rockhampton	Rockhampton High School Hall Campbell Street Rockhampton
8 April 9 April	9.00am-5.00pm 9.00am-4.00pm	Autumn	West Brisbane	Mt. Coot-tha Botanical Gardens Auditorium
9 April	8.30am-4.00pm	Autumn	Herbert River Orchid & Allied Plant	Conroy Hall McIlwraith Street Ingham
12-15 April	Shopping Centre Hours	Autumn	Redcliffe & District	Penninsula Fair, Kipp-Ring
13-15 April	Shopping Centre Hours	Autumn	Mackay & District	Caneland Shoppingtown Mackay
13-15 April	Shopping Centre Hours	Autumn	West Moreton Orchid Group	Ipswich City Square
15 April 16 April	8.00am-5.00pm 8.00am-3.00pm	Autumn	Brisbane	Community Hall Mt. Gravatt Showgrounds Cnr. Logan & Broadwater Roads Mt. Gravatt
15-16 April	8.30am-4.00pm	Autumn	Toowoomba	Walsh's Seeds & Garden Centre 881 Ruthven Street Toowoomba (opp. K-Mart)
21-22 April	9.00am-4.00pm	Autumn	Bribie Island	Ningi Community Hall Bribie Island Road Ningi
27 April 28-29 April	8.30am-9.00pm 8.30pm-5.00pm	Autumn	Southport & Districts	Burleightown Market Place Shopping Centre
27-29 April	9.30am-4.30pm Closing 2.30pm Friday	Autumn	Sunshine Coast (Caloundra)	Civic Centre Caloundra
28-29 April	9.00am-TBA	Autumn	Lockyer Valley	Gatten Council Shire Hall North Street, Gatten
29-30 April 1 May	Trading Hours to 3.00pm May 1	Autumn	Darling Downs Orchid Assoc	Walsh's Seeds & Garden Centre 881 Ruthven Street Toowoomba
29 April	9.00am-3.00pm	Autumn	Douglas	Douglas Shire Hall Mossman
4-5 May 6 May	8.00am-5.30pm 8.00am-3.00pm	Autumn	Maroochydore Orchid Society	Kawana Shoppingworld Maroochydore
6 May 7 May	9.00am-9.00pm 9.00am-3.00pm	Autumn	Gympie & District Orchid Society	"The Pavilion" Gympie
12 May 13 May	8.30am-5.30pm 8.30am-1.00pm	Autumn	Noosa District Orchid & Foliage	CWA Hall Cooroy
13-14 May	9.00am-4.00pm	Autumn	Aspley	Community Centre Edinburgh Castle Road Wavell Heights
13-14 May	9.00am-3.00pm	Autumn	Beaudesert Districts Orchids & Foliage Soc	Canungra State School Christie Street, Canungra
20-21 May	9.00am-5.00pm	Autumn	Maribyrnong	Maribyrnong Community Centre Randall Street Maribyrnong
10 June 11 June 12 June	1.00pm-5.30pm 9.00am-5.30pm 9.00am-1.00pm	Winter	Bundaberg Childers & Isis Combined Societies	Civic Centre Bourbong Street Bundaberg
17-18 June 19 June	8.00am-5.00pm 9.00am-4.00pm	Winter	Townsville	T.O.S. Hall Pioneer Park Townsville



SHOWDATES				
DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>New South Wales</b>				
13-14 April 15 April	9.00am-9.00pm 9.00am-2.30pm	Autumn	City of Lismore	Lismore Central Shopping Centre Carrington Street,
29 April 30 April	10.00am-5.00pm 9.00am-2.30pm	Autumn (Combined ANOS)	Boolaroo	Club Macquarie 458 Lake Road, Argenton
27-29 April	Shopping Centre Hours	Autumn	Tweed District	Tweed Mall Shopping Centre Tweed Heads
29 April 30 April	9.00am-5.00pm 9.00am-3.00pm	Autumn	Australasian Native (Newcastle Group)	Club Macquarie 458 Lake Road, Argenton
29 April	9.00am-3.00pm	Autumn	Species Orchid and Carnivorous Plant Society Illawarra	St. Aidan's Anglican Church Hall Mt. Brown Road, Dapto
3-5 May 6 May (Sat)	Shopping Centre Hours 8.30am-3.00pm	Autumn	Boolaroo Orchid Society	Garden City Shopping Centre Park Avenue Kotara Fair
4-6 May	Shopping Centre Hours	Autumn	Blue Mountains & Penrith District	Nepean Square Shopping Centre Station Street, Penrith
11-12 May 13 May	9.00am-5.00pm 9.00am-4.00pm	Autumn	Nambucca Valley	Scout Hall Partridge Street, Macksville
11-13 May	Shopping Centre Hours	Autumn	Grafton District	Grafton Shopping World Cnr. Duke & Fitzroy Streets, Grafton
11-14 May	8.30am-8.30pm	Autumn	Ballina & District	Ballina Fair Shopping Centre Ballina
17-20 May	Shopping Centre Hours	Autumn	Central Coast Lakes Orchid Society	Lakeside Plaza The Entrance
25 May (Thur). 26 May (Fri) 27 May (Sat)	9.00am-9.00pm 9.00am-7.00pm 9.00am-3.00pm	Autumn	Port Macquarie Orchid Society	Settlement City Shopping Centre Port Macquarie
25-26 May 27 May	9.00am-5.00pm 9.00am-4.00pm	Autumn	Casino & District	RSL Hall Canterbury Street, Casino
10-11 June	9.00am-4.00pm	Winter	Camden Haven	Catholic Church Hall Ocean Drive Laurieton
10-11 June	9.00am-4.00pm	Winter	Great Lakes	Forster Primary School Head Street, Forster
24 June 25 June	11.00am-4.00pm 8.30am-4.00pm	Winter	Illawarra District	Legacy House 96 Market Street, Wollongong
29 June 2 July (Sunday)	9.00am-5.00pm 9.00am-3.30pm	Winter	Sutherland Shire	Catts Nursery 80 Port Hacking Road, Sylvania
<b>South Australia</b>				
20-21 May	Shopping Centre Hours	Autumn	Gawler District Orchid Club Inc.	Elderly Centre Fourteenth Street, Gawler
<b>Victoria</b>				
27-28 May	9.00am-5.00pm	Winter	Mornington Peninsula	Collectors Corner Garden World 810 Spring Vale Road Keysborough
<b>Western Australia</b>				
11-13 May	Shopping Centre Hours	Autumn	Peel Region	Waikiki Shopping Centre Cnr. Read Street and Gngara Drive Waikiki
<b>New Zealand</b>				
8 April	10.00am-4.00pm	Autumn	Whangarei	Onerahi Community Hall Onerahi
13 May	10.00am-4.30pm	Autumn	Capital City	Ngaid Town Hall Wellington
13 May	9.00am-4.00pm	Autumn	Hawkes Bay	Taradale Town Hall Napier, Hawke's Bay



# Australian Orchid Review

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- Australian Orchids
- Cymbidiums Australia
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- Growing Masdevallias
- Growing Oncidiums
  - *Isochilus*
- New Masdevallia Hybrids
  - Orchids of Bolivia
  - Philippine Orchids
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## From the Editor's Desk



We are pleased to present arguably the most comprehensive and authoritative article on orchid virus ever published in a popular orchid journal. Virus is a real problem in many orchid collections and is something that will not simply "go away" by turning a blind eye to it. This paper is the result of the very latest scientific research, and will prove a valuable reference for orchid growers. Importantly, it is lavishly illustrated to aid identification.

Also in this edition, Rudolf Jenny names a new *Stanhopea* species after well-known Australian orchid enthusiast Barney Greer of Sydney. Barney, as a grower, lecturer and author of the popular *The Astonishing Stanhopeas*, has done more than anyone to popularise this genus in Australia. June Page shares some of her latest *Masdevallia* hybrids with us, Brian Milligan introduces us to a great terrestrial orchid from South Africa and we also have a couple of book reviews. One on *The Orchids of Tasmania* and the other on Eric Hansen's controversial work, *Orchid Fever*.

Sadly, we report the recent passing of David Littman from Queensland. David was a most successful grower and hybridiser of the miniature and compact *Cattleya* alliance and "hard-cane" dendrobiums. A tribute will appear in the next issue.

### The Future of Orchid Societies

Do we have too many orchid societies in Australia? Simply, I think the answer is "Yes". The number of members in orchid clubs appears on the decline, yet there are still "splinter" groups being formed. Of course, regional and country clubs play an important part in their local community, but realistically, even large cities like Sydney cannot support 40 or so healthy societies. So what needs to be done?

It is getting harder and harder for the smaller clubs to stay afloat financially, attract new members, the services of quality guest speakers and obtaining venues for their annual shows. Basically societies within an overlapping membership base, or general geographical area, need to merge or they will fade away. Whilst many stalwarts will oppose this, we are talking survival here. Potential new members won't feel inspired to join if there are only twenty or so people at the meeting, spending most of the evening on committee matters. (That's why they have elected committees!). They want to see, talk about and learn about orchids. Merged societies would offer a larger membership leading to more and varied plants on display at monthly meetings, the capacity to present better shows, plus a more productive plant sales and a greater "buzz" at the meetings. There also needs to be a push to attract and encourage younger members, but I won't define "young" here! After all, they are the "orchid worlds" future.

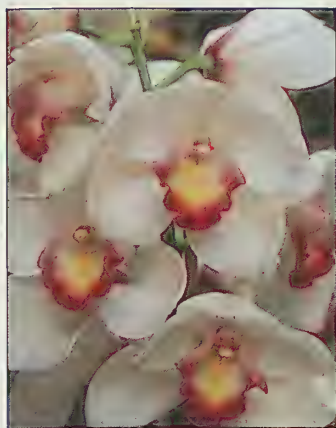
On another topic, I totally agree with Greg Bryant's comments in the last issue opposing the deliberate mislabelling of plants. It is hard enough to get the correct species (or hybrid) names onto those plastic labels anyway, without the process being deliberately sabotaged. I am still dismayed that the original comments came from a former President of the Australian Cymbidium Society, lecturer, author, nurseryman and hybridiser. I am still shaking my head.

David P. Banks

Editor, *Australian Orchid Review*  
dpbanks@ozemail.com.au



## OUR COVER



*Cym. Star Paradise 'Tequila'*

In this issue Greg Bryant reviews the *Cym. Winter Fair* heritage, looking at the broad spectrum of outstanding hybrids being produced from it. *Cym. Star Paradise 'Tequila'* is the epitome of classic beauty in cymbidiums and is featured in this two part series. — Photo: Greg Bryant



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June/July 2000

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Fig.10: Inflorescence of the type specimen of *Stanhopea greerii*  
Slide R. Kramer

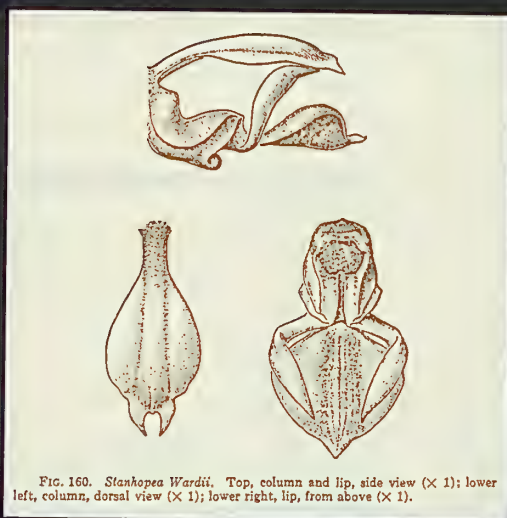


FIG. 160. *Stanhopea Wardii*. Top, column and lip, side view (X 1); lower left, column, dorsal view (X 1); lower right, lip, from above (X 1).

Fig.2: Drawing of the lip of the Klug plant, also from Schweinfurth, Orchids of Peru and described as *Stanhopea wardii*.



# *Stanhopea* *greerii* Jenny,

## a new orchid species from Peru

by Rudolf Jenny

For many years, much literature states that *Stanhopea wardii* also occurs in Peru, in spite of the fact that this species never was collected in Southern Colombia and in Ecuador, that means between Peru and the 'classic' distribution area in Northern Colombia, Panama, Costa Rica, Nicaragua and Venezuela. Charles Schweinfurth mentioned and illustrated a species as *Stanhopea wardii* in his *Orchid Flora of Peru* (C.Schweinfurth, 1958). He published two different drawings, one of a plant and inflorescence (fig. 118) and a second one only of the lip and column (fig. 160). We don't know on what material the first drawing (fig. 118) was based and unfortunately the drawing is not clear enough to decide whether the material is the same as Schweinfurth used for the second drawing (fig. 160) of the lip, but we know that the drawing of the lip is based on material collected by Klug near Moyobamba in Peru. The lip of this plant is definitely not identical with the concept of Lindley's *Stanhopea wardii*. The hypochile is longer and the angle of the hypochile is 90° and not less as in the true *Stanhopea wardii* sensu Lindley. Schweinfurth declared *Stanhopea anfracta* Rolfe and *Stanhopea peruviana* Rolfe as synonyms of *Stanhopea wardii*, a decision which is certainly not correct as we have learned since the publication of the *Orchid Flora of Peru*.

Some years ago I received pickled material and slides of an unknown plant collected in Peru from Roger Kramer in Australia. The flower was very similar to *Stanhopea wardii* but careful comparison with about 15 different clones of *Stanhopea wardii* from Costa Rica, Northern Colombia, Venezuela and Nicaragua showed clear differences in the morphology of the lip, although the colour of the flower was not far off from the typical *Stanhopea wardii*. Based on a single plant I hesitated to describe a new species but comparison with the material collected by Klug later illustrated by Schweinfurth showed the identity of Kramer's unknown species and Schweinfurth's drawings, erroneously determined by the author as *Stanhopea wardii* Lindley. Later Kramer illustrated this undescribed plant in an article about *Stanhopea* (Kramer, 1996) and also by Barney Greer (Greer, 1998) in his fabulous *The Astonishing Stanhopeas* in 1998. About five years later I was sent material of another clone from the collection of Dick Hartley in England. Originally this plant came from the collection of Henry Oakeley and was collected in



FIG. 118. *Stanhopea Wardii* Lodd. In background, flowering plant;  $\times \frac{1}{4}$ . Inflorescence; about  $\times 1$ .

Fig. 1: Drawing from Schweinfurth, *Orchids of Peru*, 1958, probably based on a collection by Klug, described as *Stanhopea wardii*.



Top, left to right: **Fig.3:** Typical *Stanhopea wardii* from Costa Rica, Slide R. Jenny. **Fig.4:** Typical *Stanhopea wardii* from Venezuela, Slide R. Jenny. **Fig.5:** Inflorescence of *Stanhopea wardii*, Slide R. Jenny.

Peru, unfortunately we don't have any further information about the locality. It was immediately clear that it was again the same species. Both plants of which we have seen living material show the same unusual (for *Stanhopea wardii*) long inflorescence with only a few flowers, arranged very loosely and not clustered together as in *Stanhopea wardii*. Whether the new species is an old segregate from *Stanhopea wardii* and whether this species has disappeared in Ecuador and Southern Colombia is unknown. Certainly, the following proposed new species, *Stanhopea greerii* is very closely allied to *Stanhopea wardii* and *Stanhopea inodora*. Until now we have no confirmed information about fragrance and pollinator.

***Stanhopea greerii* Jenny spec.nov.**

*Stanhopea wardii* similis, sed hypochilum valde longius, in medium per angulum 90° deflexum, flexus basalis laevigatis, non angulus scaber similisut in *Stanhopea wardii*; callus distinctus, infra hypochilum protrudens, in mesochilio projectus;



**Fig.8:** Type of *Stanhopea greerii* from the collection of Roger Kramer in Australia, Slide R. Kramer

hypochilium aurantiaco-luteum, mesochilum et epichilum album; inflorescentia multo longior ut in *Stanhopea wardii*, valde laxissima pauciflora.

**Type:**

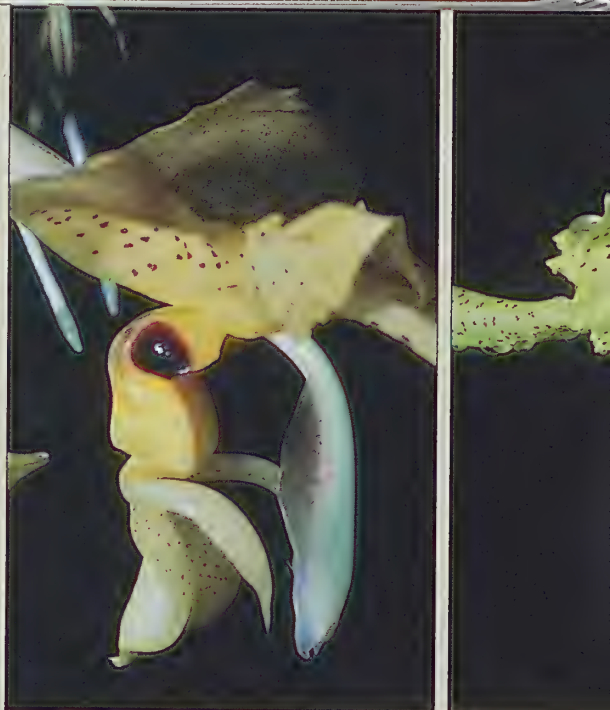
Peru, sin.loc., ex cult. R.Kramer, Wilton, Australia, 16.3.1995 (Kramer 500), G & Herb. Jenny

**Other material:**

Sin.loc, ex cult. Hartley (Henry Oakeley), England, photos Herb. Jenny

Peru, San Martin, Zepelacio, near Moyobamba, ca.1100 m, mountain forest, col. Klug no.3617 & 3684 (illustrated by Schweinfurth 1958 as *Stanhopea wardii*)

Bottom, left to right: **Fig.6:** Lips of *Stanhopea greerii* (top), *Stanhopea wardii* from Costa Rica (centre) and *Stanhopea wardii* from Venezuela (bottom), Slide R. Jenny. **Fig.7:** Lips of *Stanhopea greerii* (top), *Stanhopea wardii* from Costa Rica (centre) and *Stanhopea wardii* from Venezuela (bottom), Slide R. Jenny.



**Description:**

Plant epiphytic with creeping rhizome and clustered growths. **Pseudobulbs** oval, strongly ribbed when aged and furrowed, 4 - 6 cm high and 3 - 4 cm wide, always unifoliate. **Leaves** coarse and leathery, petiolate, lanceolate, plicate and acute, 30 - 40 cm long and 12 - 15 cm wide, petiole round and one-sided notched, 10 - 12 cm long. **Inflorescence** directed downwards from the base of the bulb, up to 15 cm long and with 2 - 5 loosely arranged flowers. Entire inflorescence covered by large, spread out broadly triangular and acute bracts. **Ovary** up to 5 cm long and 0.5 - 0.6 cm in diameter, very finely black pilose. **Flowers** 6 - 7 cm large in all, sepals and petals yellow to golden yellow with fine red dots. Hypochile orange-yellow without markings, with sharply delimited, almost black eyespots, mesochile and epichile white without spots. Column white.

**Dorsal sepal** oval, concave, acute, 4 - 4.5 cm long and 2 - 3







cm wide in the middle. **Lateral sepals** lightly asymmetric, broadly lanceolate, acute, 4 - 5 cm long and 2.5 - 3 cm wide at the broadest part in the basic third, folded backwards. **Petals** oblanceolate, acute, undulate, 4 - 4.5 cm long and 2 cm wide in the middle, folded backwards between dorsal and lateral sepals.

**Lip** 5 cm long in all and 2 cm wide, hypochile distinctly narrower than epichile, saccate, flat at bottom, only slightly dented, protruding toward mesochile, on top with distinct knee of 90°, opening ovate, bridge at base narrow wide and towards front lightly triangularly widened, with sharp edge. Transition to mesochile on top with a sharp edge running all round, with a small tridentate, flat callus in the centre. Horns narrow at base and widening towards front, acute, ovate in diameter. Epichile broadly ovate with sharp apex towards front.

**Column** slender, slightly curved, in the front two thirds rounded and winged, then again getting narrower. At apex lightly

widened and ending both sides of the anther in two blunt, somewhat protruding small horns, 4 - 4.2 cm long and 1.2 - 1.5 cm wide at the broadest part. Pollinia 2, narrow, club-shaped on narrow stipes and ovate to cordate, one-sidedly extended viscidium, pollinia 0.4 cm long, entire pollinarium 0.7 cm long.

#### Variability:

Not known because we have seen only two clones.

#### Distribution:

*Stanhopea greerii* was collected by Klug near Moyomamba in the San Marcos region, we don't know where exactly in Peru the plant used as type from the collection of Kramer was collected and we have no origin of the plant from the Hartley collection. Probably *Stanhopea greerii* is endemic for Peru.

#### Etymology:

It gives me great pleasure to name this new species after John Bernard (Barney) Greer, of Sydney, Australia. Barney is the author of *The Astonishing Stanhopeas* and has been instrumental in promoting interest in the genus *Stanhopea* in Australia.



Fig.9: Flowers of *Stanhopea greerii* from Dick Hartley, England, Slide Dick Hartley



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Rudolf Jenny  
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Allmendingen, Switzerland.  
e-mail: RJenny@compuserve.com



# New *Masdevallia* Hybrids

Text by June Page – Photos by Bert Page

During the last 10 years we have seen an upsurge of interest in *Masdevallia* hybridising. Because of the diverse shapes and wonderful colours in the genus *Masdevallia* it is not surprising that some exciting new hybrids have appeared during the last few years.

One of our first attempts at hybridising was to cross *Masdevallia* Copper Angel with *Masdevallia wurdackii*. The first to flower was a lovely pure yellow, hence the name *Masdevallia* Mellow Yellow, to our surprise it was the only one. The remaining plants flowered in various shades of orange, and some were striped.

*Masdevallia* Lynette (Pixie Dust x *caudata*) was a cross where we achieved what we had hoped for, a nice deep pink resem-

bling *Masdevallia caudata* in shape.

*Masdevallia* Lucky Dip (Southern Sun x *glandulosa*) was just that. The colours ranged from cream to orange most with purple or red hairs.

Probably, still my favourite is *Masdevallia* Anna-Claire (*angulifera* x *constricta*). These have all flowered white tipped with yellow and with a lovely glossy texture. They are seasonal flowers for us, starting about March and continuing through winter, they flower on small plants giving a wonderful display of flowers through winter.

Not quite what we expected, but nevertheless, *Masdevallia* Titania (*macrura* x *hirtzii*) is another example of the diversity in shape of the *Masdevallia* hybrids.

Another pretty white with yellow centre and a mass of fine white hairs is *Masdevallia* Arabesque (Fuzzy Navel x *ampullacea*). This flowers for us only during winter, and needs special care during our hot summer months.

*Masdevallia* Galaxy (*triangularis* x Kimballiana) is a prolific flowerer with good shape and colour. One clone has already received a Highly Commended Certificate.

Waiting for a crossing to flower is always exciting, and often surprising, as was *Masdevallia* Sun and Snow (Angel Frost x Confetti). All have been much the same with their yellow centres and lovely white hairs that seem to hold the light.

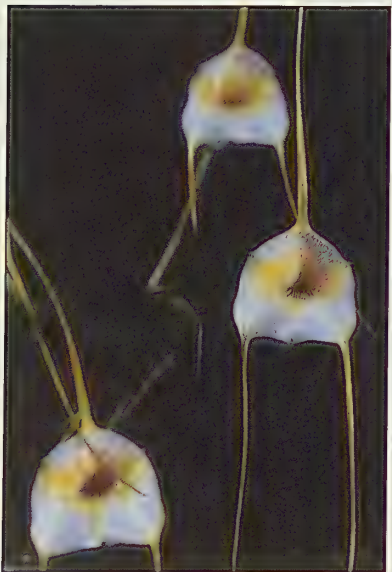
One of our most recent hybrids to



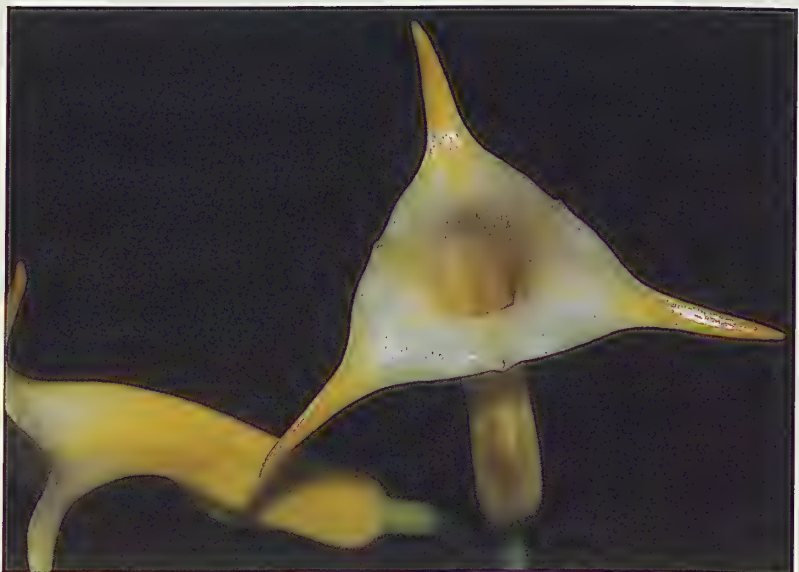
Masd. Lynette



Masd. Mellow Yellow



Masd. Arabesque

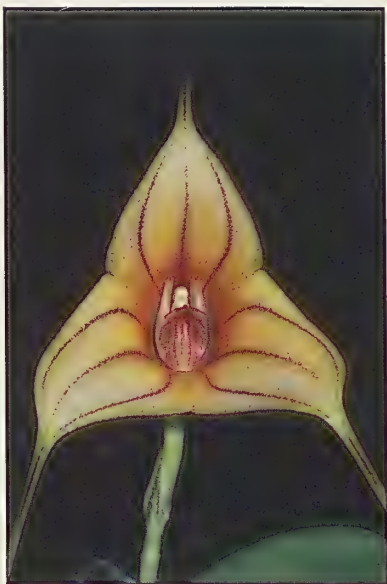


Masd. Anna-Claire





Masd. Harlequin



Masd. John Leathers



Masd. John Leathers

flower is *Masdevallia* Angel Glow 'Anna' HCC/AOC-NSW crossed back to *Masdevallia veitchiana*. Those to flower have all been very similar to the *Masdevallia* Angel Glow parent with the *Masdevallia veitchiana* influence possibly intensifying the colour. This is now registered as *Masdevallia* Pirouette. *Masdevallia* Ayers Rock (*triangularis x panguiensis*) is one that shows a lot of variation in colour. While the shape is very consistent the colour varies from shades of red through to yellow and some with spots.

Using *Masdevallia constricta* again, this time with *Masdevallia* Marguerite, we

managed to produce the very pretty and free flowering *Masdevallia* Topaz. This has really proved its worth for us, as it continues to flower even during the hottest part of our summer.

The *Masdevallia* Harlequin x *Masdevallia chaparensis* crossing was done by Phil Nicholas from Tasmania. It is strongly influenced by *Masdevallia chaparensis*, but seems to be harder than the species as it grows quite well for us here in our hotter climate.

*Masdevallia* John Leathers x *Masdevallia triangularis* was made in Sydney by David Butler of Green Vista

Orchids. These have flowered on very small plants. So far we have flowered six plants of this cross. Three have been much the same, yellow with deep maroon stripes, the other three have some striping but all are densely covered with fine maroon hairs and fine spots.

Apart from their beauty and diversity of colour and shape, another reason we enjoy growing *Masdevallias* is, unlike a lot of other genera, we sometimes only have a wait of 12 to 18 months from flask to flowering.

June Page

1 Dalton Road, St. Ives, NSW, 2075



Masd. Galaxy





# VIRUS

## of orchids in Australia biology and

by Adrian Gibbs<sup>a</sup>, Anne Mackenzie<sup>a</sup>, Annette  
Elliot Kitajima<sup>d</sup>, Maggie Nigam<sup>e</sup>

### Viruses – some basic facts


Viruses are the 'corporate take-over' specialists of the biological world. They are sub-cellular microbes that replicate within the cells of their host organisms, but they do not themselves produce cells. They have been found in all sorts of cellular organisms; animals, plants, fungi, protozoa and bacteria. Viruses have only a limited set of genes and hence, when they replicate, they absolutely depend, to a greater or lesser extent, on the metabolic systems of their hosts.

Most higher animals, plants and fungi are multi-cellular, but bacteria and some protozoa, algae and fungi are single-celled. The growth and reproduction of cellular organisms always involves cell division, whereas viruses, being sub-cellular, replicate, like the sub-cellular components of host cells such as flagellae, by synthesis of their component molecules and their subsequent assembly.

Although the life cycles of cellular organisms involve living cells at all stages, those of viruses have two discrete phases. Most obvious and characteristic are the viral particles, or virions (Fig. 1 and 2). These are not metabolically active, and they function as the dispersal phase of the virus when they spread to and infect uninfected host cells. Virions are so small that they can only be

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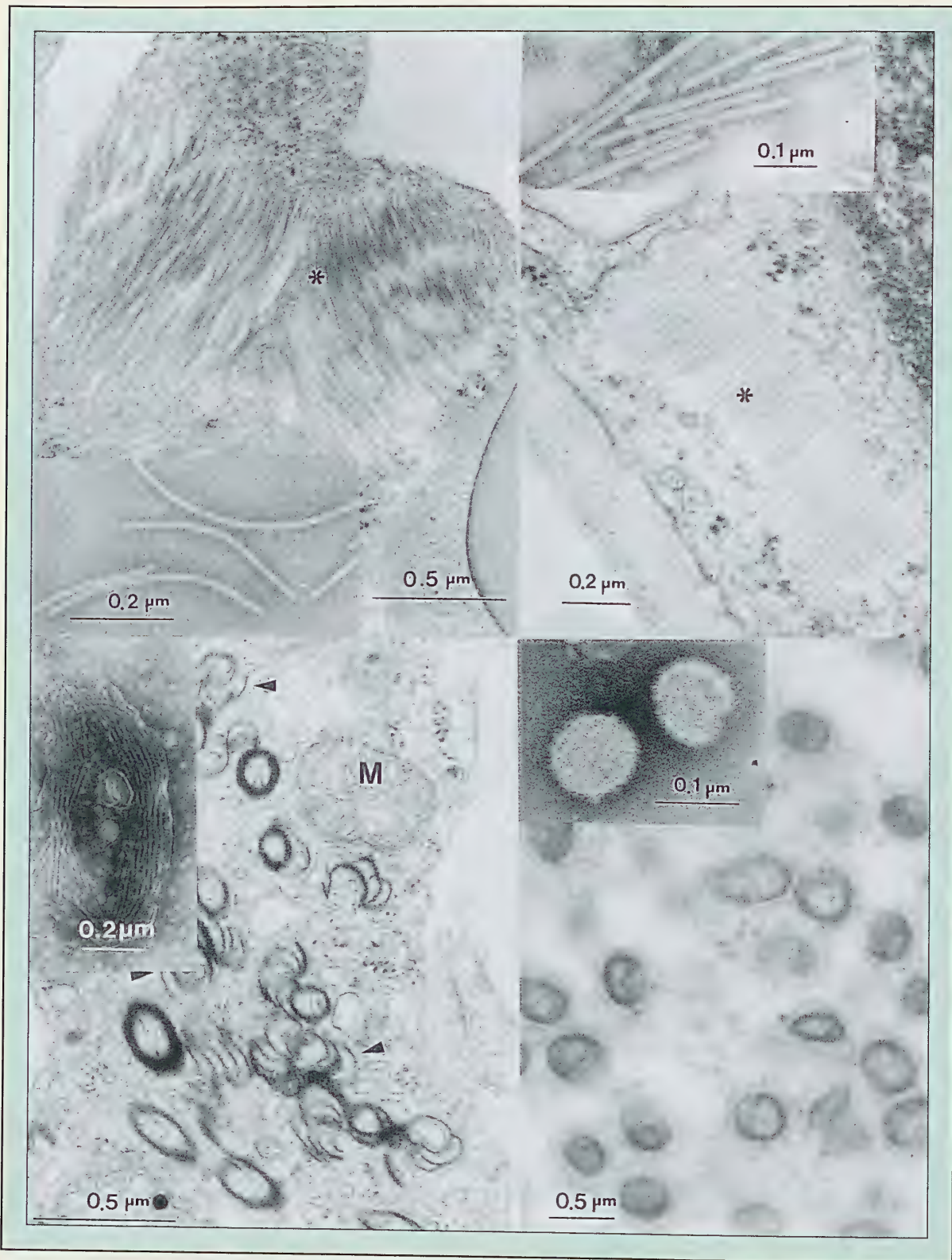
## their identification, control

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seen in an electron microscope, nonetheless they can be purified using centrifuges and/or chemical separation methods. They usually have a relatively simple structure, such as a helically constructed protein tube or a spherical shell of protein molecules surrounding and protecting the genetic material, or genome, of the virus. The simplest virions are constructed of only two types of molecules; for example, those of odontoglossum ringspot tobamovirus are tubular rods 300nm long and 18nm in diameter, each consisting of a single nucleic acid molecule encoding all the genetic information of the virus, and this is wound within a protective helical tube constructed from around 3000 identical copies of a coat protein. Because the virions of each virus are of simple uniform structure and shape, those that are spherical often form crystals, especially when concentrated and pure. This property provoked much early discussion about whether viruses are “living” or “dead”, whereas it merely indicates that the virions have a uniform shape and hence can pack together in a repetitive pattern, namely a crystal.

The other phase of the viral life cycle is its reproductive phase. During this phase the virus exists as a set of viral molecules that integrate with, control, and replicate with the help of the metabolic systems of the host. During replication the separate components of virions are produced and these then assemble appropriately to produce progeny virions. The replicating components of a virus usually have no characteristic shape, and so cannot be recognized as such, although those of a few viruses form defined cellular inclusions or induce characteristic subcellular changes,





**Fig. 1.** Electron micrographs of sections of orchid leaf tissues infected by different viruses with negatively stained virions (insets) of each virus at a greater magnification.  
**Top left:** *Cymbidium* sp. from Brazil infected with cymbidium mosaic potyvirus showing a fibrous mass of virions (\*). **Top right:** *Cymbidium* sp. from Brazil infected with odontoglossum ringspot tobamovirus showing a paracrystalline group of virions (\*) in the cytoplasm alongside the nucleus.

**Bottom left:** *Eriopexis helleriana* from Australia infected with ceratobium mosaic potyvirus. The virions cannot be identified with certainty, but note the cytoplasmic lamellar 'pinwheel' (arrowed) characteristic of potyviruses (M, mitochondrion). **Bottom right:** *Pterostylis* sp. from Australia infected with pterostylis blotch tospovirus showing membrane-bounded spheroidal virions in vesicles within the endoplasmic reticulum.



which together with macroscopic changes result in the characteristic symptoms of viral infection.

Virus infection causes plants to show a wide range of symptoms. Many viruses cause leaf mosaics (patterns of pale and dark green) or necrosis (dead patches of tissue), others cause yellowing, most depress growth to a greater or lesser extent and slow or stop cuttings forming roots. Symptoms may be masked by environmental conditions, for example mosaic symptoms are suppressed when growing conditions for the infected plant are good or when the temperature is above 25°C or the light intensities are low, whereas they are often enhanced at temperatures below 15°C and by high light intensities or when the plant is stressed.

Some plant viruses are contagious in that they spread from infected plants to healthy ones when they touch, presumably through broken hair cells and other small wounds made during the contact. A few are soil-borne even in sterilized soil, so they are probably spread contagiously in soil water. However most plant viruses are spread by other organisms, collectively called "vectors", that feed on, and move between, plants. Most vectors are insects, especially aphids, leafhoppers, planthoppers, thrips, beetles and whitefly, others are transmitted by mites, and some by soil inhabiting organisms including nematodes and fungi. Each virus has a very specific relationships with its vectors, and related viruses usually have closely related vectors, and hence spread in the same way.

Each virus, like all other organisms, has a characteristic set of properties that are, to a greater or lesser extent, specific to it. For example, almost all plant viruses are transmitted through grafts, and also to cuttings and other vegetative propagules, such as runners or bulbs, taken from infected plants. By contrast the host range of each virus and the symptoms it causes in different plants is usually specific to a single viral species.

Over 1000 species of plant-infecting viruses have been described, and these fall into around 60 genera. All the species in

each genus have probably evolved from a single ancestor, and hence share many properties with the other species of the same genus. For example they usually have virions of similar shape and composition, cause similar symptoms, and usually spread from plant to plant in the same way, but they often differ in the species they infect, and the severity of the symptoms they cause. The fact that some characters are linked in this way enables one to determine some properties of a virus and from these predict others. For example, an examination of the sap of a virus-infected plant may reveal the shape and size of its virions, and from this one may be able to deduce to which genus it probably belongs, this then enables one to predict how it may spread and thus how it might be controlled. Therefore, in this review, we will describe and discuss the viruses one genus at a time, emphasizing those characters which are usually shared by all species of the genus.

Viruses of orchids

So far viruses from at least eight genera have been found in orchids (Table 1). However most published research on orchid

Table 1 Viral genera with species that infect orchids

Genus	Number of species that infect orchids	Virion shape	Spread by
cucumovirus	1	small sphere	aphids; seed.
nepovirus	1	small sphere	nematodes; seed.
potexvirus	1	flexuous rod	contact.
potyvirus	13	flexuous rod	aphids; seed.
rhabdovirus	2	bullet-shaped rod	false spider mites.
tobamovirus	1	straight rod	contact; seed
tombusvirus	1	small sphere	contact; soil water; thrips.
tospovirus	1	irregular sphere	

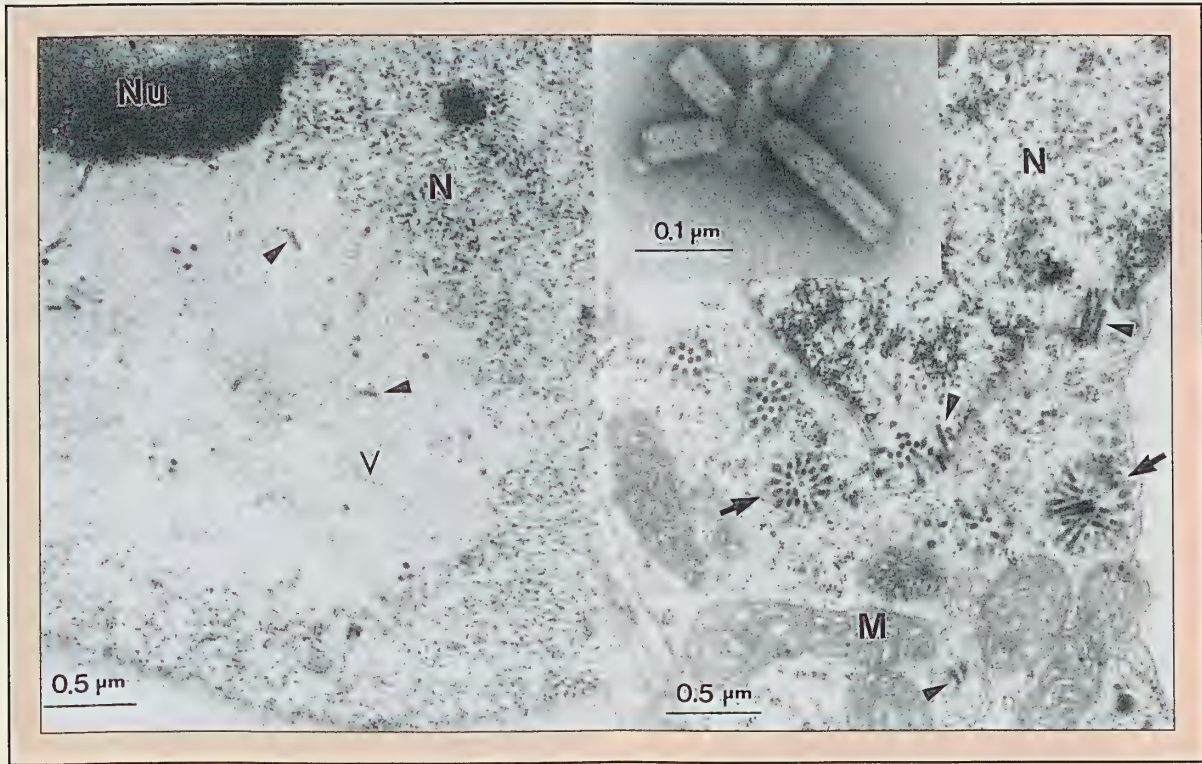
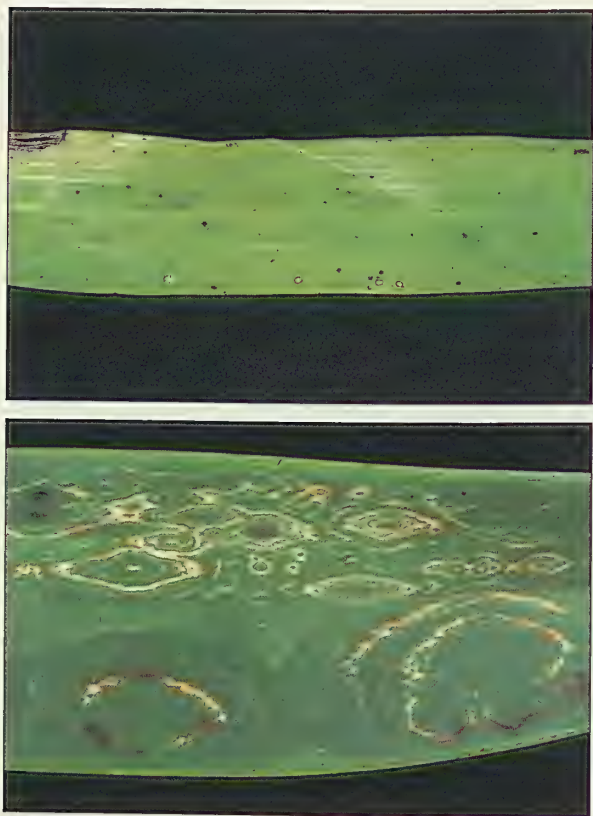


Fig. 2. Left: *Angraecum sesquipedale* from Madagascar infected by orchid fleck rhabdovirus. Rod-shaped virions (arrowed) are embedded in an electron lucent viroplasm (V) in the nucleus (N) alongside the nucleolus (Nu). Right: *Miltonia* sp. from Brazil infected with orchid fleck rhab-

dovirus showing virions at the periphery of the nucleus (N) and in the cytoplasm (arrowheads). Some have formed characteristic spokewheel aggregates within extruded parts of the nuclear envelope or endoplasmic reticulum (arrowed). Note the mitochondria (M).





**Fig. 3** Potexvirus:  
**Top:** leaf of *Zygopetalum* sp. infected with cymbidium mosaic potexvirus;  
**Bottom:** leaf of *Dendrobium speciosum* infected with cymbidium mosaic potexvirus.

viruses worldwide has concentrated on just two viruses, cymbidium mosaic potexvirus and odontoglossum ringspot tobamovirus.

### Potexviruses

The potexviruses are named, like many plant virus genera, after the type species, **potato virus X**. There are around 50 described potexviruses, including cymbidium mosaic virus (CymMV), which is found worldwide in cultivated orchids. It infects orchids from many genera including species of *Aeranthus*, *Cattleya*, *Coelogyne*, *Cymbidium*, *Dendrobium*, *Epidendrum*, *Laelia*, *Oncidium*, *Phaius*, *Phalaenopsis*, *Vanda*, *Vanilla* and *Zygopetalum*. Like other potexviruses CymMV causes leaf mosaics and mottles, occasionally ringspots, sometimes with necrotic flecking (Fig. 3). In some species, flowers show colour-breaking symptoms.

CymMV is readily transmitted experimentally by sap inoculation (i.e. by rubbing sap from an infected plant onto a healthy one) and in this way can be transmitted to some species of eight other plant families. Potexvirus virions are stable flexuous filaments around 480 nm long and 13 nm wide (Fig. 1). Infected plants contain large numbers of virions and so infection is readily detected by electron microscopy and by serological methods. The full sequence of the genome of several potexviruses, including that of CymMV, has been determined, and potexviruses are readily detected by RT-PCR tests (see Box 1).

Some potexviruses, but not CymMV, are spread by aphids and spider mites, and a few by seed, but none by pollen. Like other potexviruses, CymMV is contagious, and spreads between plants when they are handled or when sap-contaminated tools are used for watering, pruning or dividing plants. Fortunately the virions of CymMV, like those of most plant viruses, are quickly disrupted

by soap and detergents. Therefore the spread of CymMV in orchid collections is best controlled by spacing plants so that they don't touch when moved by wind or watering and, when they must be handled, pruned or divided, it is essential to handle each plant separately, and to wash hands and tools with soap and water before and after each plant is touched.

Much research has been done attempting to free orchids from infection by CymMV and/or odontoglossum ringspot tobamovirus (see below). The simplest method is to exploit the fact that these viruses are rarely or never transmitted through seed or pollen, so plants grown from seed are often virus-free. However many prized orchids are hybrids and plants grown from their seeds may not be identical to their parent, and furthermore virus-infected plants may be infertile. To avoid such problems it has been found that virus-free plants may sometimes also be obtained from infected ones by successively propagating from shoot tips or protocorms, especially when the plantlets are grown on media containing virazole, ribavirin or dithiouracil, but this process is time-consuming and uncertain of success.

### Tobamoviruses

This genus of around 20 species is named after the type species, **tobacco mosaic virus (TMV)**, which was discovered just over 100 years ago, and whose discovery established the branch of science called virology. Odontoglossum ringspot virus (ORSV) is a tobamovirus, and is found worldwide in most commercial orchids. ORSV causes yellow mosaics and mottles, occasionally ringspots, often with necrotic patches (Fig. 4) in a wide range of orchid genera including *Cattleya*, *Cymbidium*, *Epidendrum*, *Odontoglossum* and *Zygopetalum*. ORSV is very readily transmitted experimentally by sap inoculation. Tobamovirus virions



**Fig. 4** Tobamovirus:  
**Top:** leaf of *Kefersteineia mystacina* infected with odontoglossum ringspot tobamovirus;  
**Bottom:** leaf of *Dendrobium* hybrid infected with odontoglossum ringspot tobamovirus.



are rod-shaped tubes 300 nm long and 18 nm wide. They are very stable and survive in dry leaves for at least 100 years. They occur in very large concentrations in infected plants (up to 1% of the weight of sap!!) and they are very antigenic, and so ORSV infection, like that of CymMV, is readily detected by electron microscopy, by serological tests, such as ELISA, and by RT-PCR (see Box 1). The full genomic sequences of around 20 tobamoviruses have been determined, including that of ORSV, which is unusual in that it is a hybrid; it inherited its virion protein gene from the tobamovirus lineage that gave rise to TMV itself, but its other genes came from the tobamoviruses that infect brassicas.

All tobamoviruses are contagious, some, but not ORSV, are seed-borne, but none are spread by sap-feeding vectors despite the large concentration of virions in plants and their infectivity.

So ORSV, like CymMV, spreads when plants touch or are handled, and the control measures outlined above for CymMV are also effective against ORSV. It is particularly important to dispose of dead leaves from infected plants by burning them, as they remain infective when dry for very long periods and are a source of contagion.

**Potyviruses**

The potyviruses, named after the type species, **potato Y virus**, form the largest genus of the largest family of plant viruses, the Potyviridae, which has over 400 species (a quarter of all well-described plant viruses). They cause leaf mosaics and often also cause colour-breaking symptoms in flowers (Fig. 5). They are readily transmitted experimentally by sap inoculation, but often only to a relatively limited number of plant species. In nature they



**Fig. 5** Potyviruses:  
**Top left:** flower of *Dendrobium lamarckianum* infected with ceratobium mosaic potyvirus;  
**Mid left:** shoot of *Eriopexis helleriana* infected with ceratobium mosaic potyvirus;

**Bottom left:** flowers of *Pleione formosana* infected with pleione virus Y;  
**Top right:** leaves of *Diuris orientis* infected with diuris virus Y;  
**Mid right:** plant of *Eriochilus* sp. infected with pterostylis virus Y;  
**Bottom right:** plants of *Corybas dilatatus* infected with pterostylis virus Y.



are transmitted when aphids probe plants trying to find their preferred host species, and some are also seed-borne, but they are not contagious, like ORSV and CymMV.

Early reports of potyviruses in orchids with mosaic symptoms were based on finding their flexuous filamentous virions, which are around 750 nm in length (Fig. 1), but serological tests did not sort out whether just one species of potyvirus was involved, or whether there were more. However gene sequencing has now shown that at least 13 species infect orchids, 7 of them in Australia (see Box 3). Three potyviruses previously recorded in orchids overseas are vanilla necrosis potyvirus, which in 1988 was reported to have been isolated from *Vanilla planifolia* Jackson (as *Vanilla fragrans* Ames) in Tonga and subsequently found by gene sequencing to be indistinguishable from watermelon mosaic virus 2, next dendrobium mosaic virus, which was reported in 1995 to have been isolated from cultivated plants of *Dendrobium x superbum* Rchb.f. from two Hawaiian islands, and finally calanthe mild mosaic virus reported from *Calanthe* orchids in Japan in 1998. No gene sequences have been reported for potyviruses found in *Habenaria* and *Pecteilis* orchids in Japan, or for vanilla mosaic potyvirus reported to be widespread in French Polynesia, and so their relationships are uncertain.

We have recently sequenced genes from three other potyviruses reported overseas. The samples were imported, under quarantine control, in dried leaf samples, and gene sequences were determined directly. One was cypripedium virus Y (CypVY), which had been isolated from several *Cypripedium* species from private collections in Europe; previous attempts by overseas researchers to identify this virus using serological tests had given confusing results as it seemed distantly related to turnip mosaic, bean yellow mosaic and lily mottle potyviruses, but gene sequencing showed clearly it is a new species of potyvirus. Another was clover yellow vein virus (CIYVV), which was isolated from *Dactylorhiza majalis* (originally *Orchis majalis*) from Germany, and which gene sequencing showed to be a strain of CIYVV distinct from any previously reported before. The third was turnip mosaic virus (TuMV) isolated from *Orchis militaris* from Germany and also different from other strains previously reported; both TuMV and CIYVV have been reported from many countries and in many plant species.

All potyviruses are spread by migrating aphids. Therefore winged aphids of all species must be excluded from orchid collections. This can be achieved by controlling populations of all aphids in the glasshouses that house the orchids, not just those, such as the yellow orchid aphid (*Sitobion luteum*) (Fig 6), which feed on orchids. Colonies of most aphid species only produce winged individuals when they become crowded or the plants age. Some potyviruses are also seed-borne, but it is not known whether any of those infecting orchids are transmitted in this way; we have tested several hundred seedlings grown from seed from *Dendrobium* spp. infected with ceratobium mosaic potyvirus (see Box 3) and found none to be infected.

**Rhabdoviruses**

There are several genera of rhabdoviruses, named from the Greek word “rhabdos”, a rod, as they have short rod- or bullet-shaped virions. Rhabdoviruses have been isolated from a wide range of animals and plants. Those that infect plants fall into at least three groups. Each is transmitted by one or other of a range of vectors including aphids, leafhoppers, planthoppers, lacebugs and mites, and some have been shown to replicate in those vector organisms. Rhabdoviruses have characteristic complex bacilli-form or bullet-shaped virions with an outer lipid membrane, although this is absent or readily lost in some species. Virions of both sorts have been found by electron microscopy in orchids.

Orchid fleck virus (OFV), a rhabdovirus with unenveloped virions (Fig 2), was first found in Japan in *Cymbidium* plants with necrotic or chlorotic ringspots and fleck symptoms (Fig 7). It has subsequently been found to be common in several orchid genera

**BOX 1 –  
Virus Identification**

The traditional early methods for identifying and characterizing plant viruses involved determining a wide range of properties, such as their ability to infect particular indicator plants, their natural vectors, and even the temperature at which their virions are inactivated. Most of these properties are very time-consuming to determine, and few are particularly specific, for example, the host range of a virus, and the symptoms it causes, rarely allow a virus to be definitively identified. More specific and quicker tests are required and these have been devised and adopted over the past 40 years

**Electron microscopy**

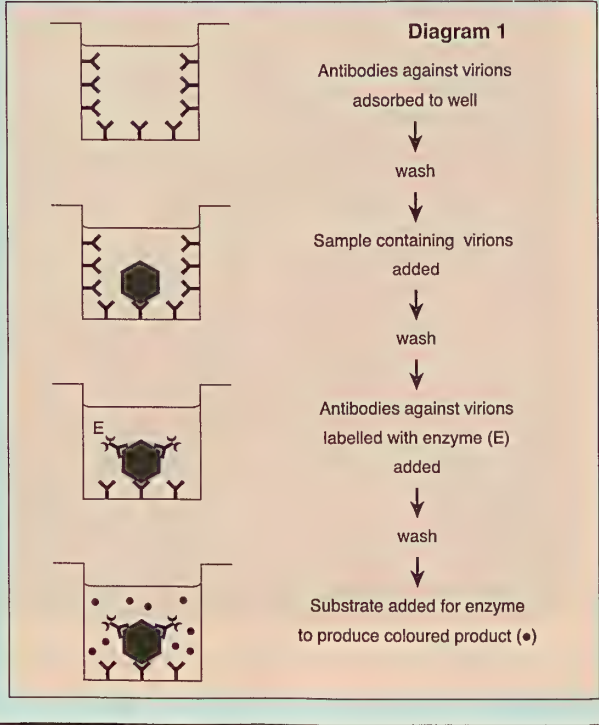
Since the 1950s electron microscopes have been used to inspect the sap of infected plants to check for the presence of virions. Although the shape and concentration of virions may tell you to which genus a virus belongs, less than half the recorded viruses can be identified in this way either because the virions may not have a unique shape (n.b. a third of all known plant viruses have round virions about 30nm in diameter) or because the virions may be too unstable or not in sufficient concentration in sap to be found.

More sensitive and specific tests are required. Most widely used for the past 50 years have been serological tests, which check extracts of infected plants for the proteins produced by virus infection, such as those in the virions. However the most sensitive and specific tests are those based on PCR (see below). These tests were invented in the mid 1980s.

**Serology**

Serological tests use antibodies. These are protein molecules which are secreted by vertebrate animals into their circulating blood, and which protect them against infection. Antibodies are produced in response to infecting microbes or injected vaccines, and also to foreign proteins (antigens) injected into the animal. Antibodies specifically react with, and stick to, the antigen molecules that stimulated their production, and so this specific reaction can be used to test for antigens, such as the virions of plant viruses.

There are many types of serological test of which the most sensitive is called ELISA, short for Enzyme Linked Immuno Sorbent Assay (Diagram 1). This test uses antibody molecules targeted against plant virus virions. The antibodies are usually produced by injecting rabbits with purified virions, though mice are also used





sometimes, and the tests are done in small wells formed in thin plastic plates. First dilute antibodies are put into the wells, where they stick to the walls. Then sap samples extracted from plants being tested for infection, or from comparable healthy plants, are put into individual wells. If the sap contains virions that react with the test antibodies, then they are bound to the antibodies on the walls of the well. Finally the presence of the virions in particular wells is detected using some of the same antibodies to which molecules of an enzyme have been chemically bound. These secondary antibodies attach to the bound virions, and the enzyme attached to them is detected by adding a compound which the enzyme converts to a coloured product. Each enzyme molecule converts many substrate molecules and so the reaction with the targeted virions is amplified.

## Nucleic acids; the tape-recordings of life

The most specific way to characterize and hence identify an organism is to sequence its genes, and some tests based on gene sequences, such as those involving PCR (described below), are among the most sensitive of any. To understand these tests it is necessary to know a few facts about nucleic acids which are the molecules that carry the genetic information in chromosomes in the nuclei of cells and the virions of viruses.

Nucleic acids are linear molecules, and are of two types called deoxyribose nucleic acid (DNA) or ribose nucleic acid (RNA). Each nucleic acid molecule has a backbone of alternating phosphate and sugar residues (ribose or deoxyribose) to which is bonded one or other of four bases; called guanine (G), adenine (A), cytosine (C) and, in DNA, thymine (T) or, in RNA, uracil (U); each sugar/phosphate/base unit is called a nucleotide. It is the sequence of the bases that encodes the genetic information, so nucleic acids are the 'tape recordings' of life.

Most organisms store their genetic information in double-stranded DNA, the famous double-helix. In this, one strand is said to be the complement of the other because a G base in one strand is always opposite to, and bonded with, C in the other, and A to T in the other, and the bonds in the backbone are linked in one direction in one strand, but in the opposite direction in the other. The bonds that link the base pairs in the complementary strands are weaker than those in the backbone, and separate when the DNA is being copied in the cell, and can also be separated by heating. If the separate strands are then cooled, the base pairs reform between the complementary strands.

All cellular organisms store their genetic information in double-stranded DNA (dsDNA), but viruses are more versatile and although some have DNA genomes, many have RNA, and for some it is single-stranded, in others double-stranded. In addition all organisms use RNAs as intermediaries to carry the sequence information from the genes to the ribosomes to produce proteins. Over the past 50 years ways of manipulating nucleic acids in the laboratory have been invented. The sequence of a chosen DNA can now be determined relatively easily, hence the Human Genome Project, and it can also be copied, cut and/or modified at chosen sites. The genomes of most plant viruses are single-stranded RNA (ssRNA), which is more difficult to handle than DNA as it is less stable, so for experimentation ssRNAs are usually first copied into DNA using an enzyme called reverse transcriptase (RT).

## PCR and gene sequencing

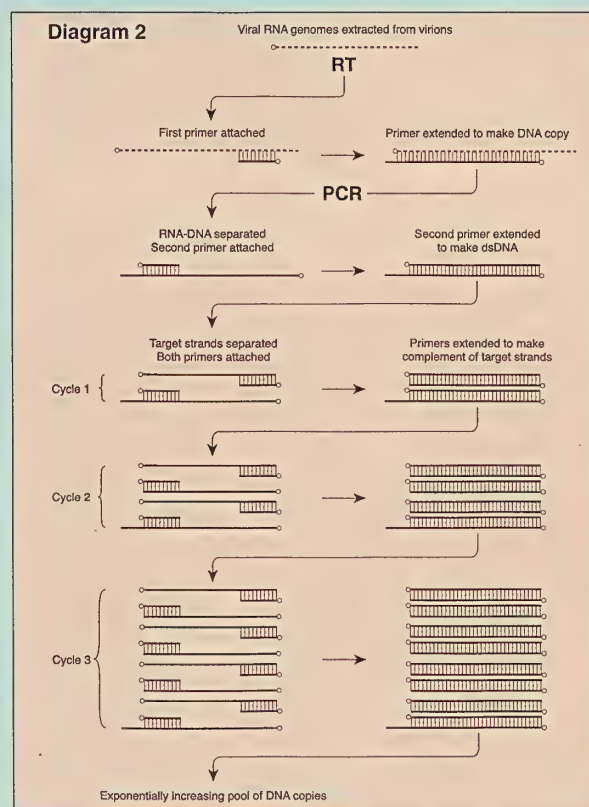
We have been using techniques based on the polymerase chain reaction (PCR) to identify viruses of orchids. This technique allows one to select a particular gene sequence from a complex mixture, and then amplify it for sequencing or other tests (Diagram 2).

Most of the viruses for which we have tested have RNA genomes, so the targetted genes must first be copied into ssDNA using an enzyme called a reverse transcriptase (RT). The region to be copied is selected using a nucleic acid molecule 15-30 nucleotides long, called a 'primer', which is synthesised chemically so that it has a sequence that is complementary to one end of the targetted part of the viral gene sequence. The viral RNA is heated to separate all double-stranded regions, and then cooled in the presence of the primer, which hybridizes to one end of the targeted

sequence to form a short double-stranded region. To the mixture is added nucleotide precursors and the RT enzyme, which then sequentially adds nucleotides to the primer DNAs and produces a DNA strand complementary to the RNA strand to which the primer is hybridized. A second primer, complementary to a region of the DNA usually 200 to 2000 nucleotides from the first, is now added, together with a heat stable DNA polymerase enzyme. The mixture is heated to around 90°C to separate the strands of the DNA/RNA hybrid. Next it is cooled to around 55°C to allow the second primer, which has been added in a large excess, to base-pair with the end of the DNA and then, at a temperature around 70°C, the polymerase sequentially adds nucleotides to the primer DNA. In this way a double-stranded fragment of DNA with the chosen primer sequences at either end is produced. Then, by repeatedly cycling the temperature in the presence of the two primers that hybridize to the ends of the targetted gene sequence, but on opposite strands, the region between them is selectively and exponentially copied.

Gene sequence information for many plant viruses is now available over the Internet in international databases and these can be searched for gene regions shared by different species of a single virus genus. These conserved regions may vary slightly from one species to another, and primer mixtures made to target these regions will hybridize not only with all known species of the genus, but also with other species of the genus that have not been sequenced before.

PCR is a very specific and sensitive technique. It is hundreds of times more sensitive than the best serological tests, and thousands of times more sensitive than electron microscopy; a minuscule piece of infected plant tissue can provide sufficient nucleic acids for a PCR test. If, using genus/group-specific primers, a DNA fragment of the predicted size is obtained then this is clear evidence that the plant was infected with a virus species of the targetted genus. The viral species can then best be identified by determining the nucleotide sequence of the DNA fragment, as the sequence can then be compared with those in the international databases to determine if the virus is a new species or a strain of one that has already been reported.





in Australia (see Box 2 and 3) and in Brazil, Denmark, Germany, Korea, and the USA. It has been shown in experiments to be transmitted by the ‘false spider mite’, *Brevipalpus californicus* (Fig 8). It can also be sap inoculated both to orchids and some non-orchid plant species.

Another rhabdovirus has been detected by electron microscopy in orchids grown in Hawaii. It has been described as a ‘true’ rhabdovirus as its virions have an intact outer membrane, and thus they are larger than those reported for OFV, however its relationships with other rhabdoviruses are unknown. In Brazil, some plants with OFV-like symptoms have been found to have short rhabdoviruslike virions in endoplasmic reticulum cavities and dense cytoplasmic viroplasm, a cytopathic condition similar to that reported for citrus leprosis and passion fruit green spot diseases.

### Tospoviruses

The tospoviruses are named after the type species, tomato spotted wilt virus (TSWV), which was for many years thought to be a single species with an exceptionally broad host range. TSWV has been shown to infect over 900 plant species, however gene sequencing has shown that TSWV is one of more than a dozen distinct tospoviruses, most of which infect fewer plant species. Tospoviruses have rounded membranous virions (Fig. 1), that are particularly unstable and difficult to purify. They are

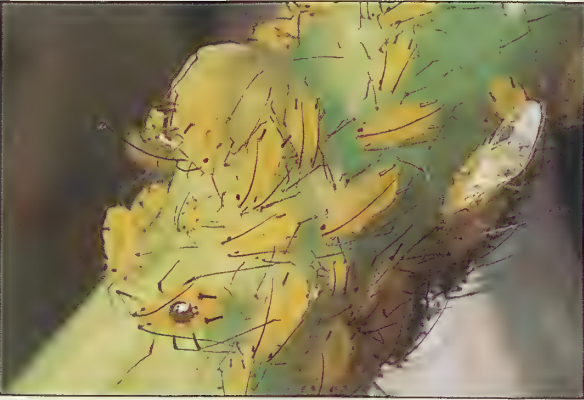


Fig. 6 Aphids: a colony of *Sitobium luteum*, the yellow orchid aphid.

#### BOX 2 – Viruses in Australian orchids – electron microscopy

Since 1991 the Tasmanian Department of Primary Industry, Water and Environment has provided orchid growers with a commercial virus screening service, operated by the TASAG-ELISA and Pathogen Testing Service. Plant samples are checked for the presence of virions in sap negatively stained with 2% ammonium molybdate using an electron microscope.

Over the past nine years leaf samples of over 4500 orchid plants have been examined. They were sent by growers for testing either because they showed virus-like symptoms, or to check stock plants were virus free before they were used for propagation. *Odontoglossum* ringspot tobamovirus (ORSV) was found to be the most common virus in the samples, but orchid fleck rhabdovirus (OFV) and cymbidium mosaic potexvirus (CymMV) were also frequently detected:

ORSV	1403/4580	30.6%
OFV	466/4580	10.2%
CymMV	345/4580	7.5%

1.9% of the samples had mixed infections, and no virions were found in 53.6%.

Of note is the fact that in similar surveys elsewhere in the world OFV is rarely found.

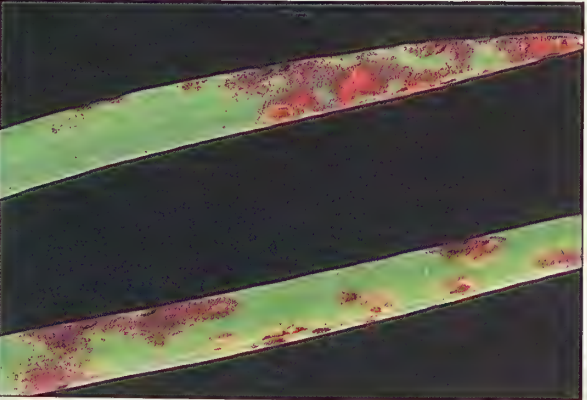
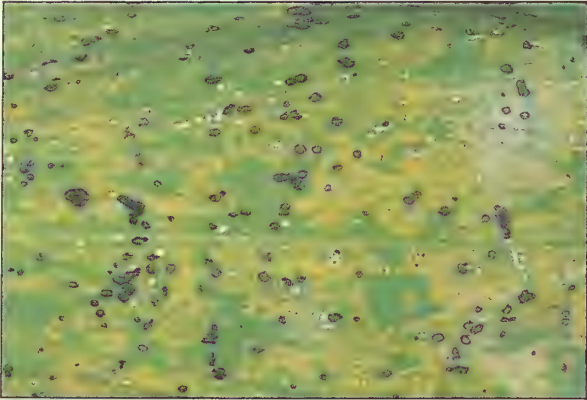


Fig. 7 Rhabdovirus:  
Top: leaf of *Stanhopea* infected with orchid fleck rhabdovirus;  
Middle: shoot of *Dendrobium* hybrid infected with orchid fleck rhabdovirus;  
Bottom: leaves of *Dockrillia* hybrid infected with orchid fleck rhabdovirus.

transmitted by thrips, and replicate in them. They are also transmitted experimentally by sap inoculation, but are not contagious or seed-borne. Interestingly gene sequence analysis shows tospoviruses to be a genus of the Bunyaviridae, the biggest family of animal viruses, whose species infect vertebrate animals and various vectors that include mosquitoes, midges, flies and ticks.

Recently we have found that in S.E. Australia there is a previously undescribed tospovirus widespread in endemic *Pterostylis* spp. showing chlorotic blotch symptoms (Fig 9). It has not yet been found in orchid collections. Its virions were found first by electron microscopy, and its relatedness to other tospoviruses confirmed by RT-PCR and serological tests.

### Other orchid viruses recorded overseas

There have been single records of viruses of at least three other



genera in orchids overseas. Best studied is cymbidium ringspot tomosvirus which was reported from the U.K. in 1963 where it seems to spread in soil water, it is also contagious and has a wide host range. There are also records of cucumber mosaic cucumovirus, an aphid-transmitted virus, which was found in *Phalaenopsis* in Taiwan and *Calanthe discolor* in Japan, and of tomato ringspot nepovirus, a nematode-transmitted virus, isolated from *Cymbidium* in the U.S.A. The latter two viruses are seed-borne and maybe pollen borne, and are found worldwide in a large number of horticultural species. All three have small spherical virions, and would not be readily identified by electron microscopy alone except soon after infection when virions are plentiful in the infected plants.

## Summary of surveys of viruses in Australian orchids

The results of recent surveys by electron microscopy (Box 2) and by RT-PCR (Box 3) show that virus infections are widespread in Australian orchids, that orchid growers recognize the symptoms caused by viruses, and that several different viruses are involved. However the samples examined by electron microscopy were supplied by many different growers, whereas the samples tested by RT-PCR came from a small number of specialist collections, so we cannot estimate the virus incidence (% infected plants), nor can we usefully compare the results of the surveys.

However the surveys confirm that the well-known orchid viruses CymMV and ORSV are widespread in Australia. This

### BOX 3 – Viruses in Australian orchids – RT-PCR

Over the past three years we have been testing orchids from several Australian collections, especially that at the Australian National Botanic Gardens, using RT-PCR (see Box 1). Initially the plants were tested for potyviruses, but subsequently we have tested smaller numbers of plants using primers for potexviruses, tobamoviruses and, most recently, for orchid fleck rhabdovirus and tospoviruses. More than 850 plants representing 72 genera of the Orchidaceae have been tested.

**Potexviruses.** CymMV has been detected in 128 plants from 29 genera (*Aerides*, *Aporum*, *Brassavola*, *Bulbophyllum*, *Calanthe*, *Cattleya*, *Coelogyne*, *Cymbidium*, *Dendrobium*, *Dendrochilus*, *Epidendrum*, *Grammatophyllum*, *Grastidium*, *Inobulbon*, *Liparis*, *Miltonia*, *Monanthes*, *Oeceoclades*, *Oncidium*, *Paphiopedilum*, *Pedilonum*, *Phaius*, *Phalaenopsis*, *Phragmipedium*, *Renanthera*, *Renantherella*, *Sarcanthopsis*, *Stenoglottis* and *Vandopsis*). The gene sequences show that there are two slightly different strains of CymMV in these orchids.

**Potyviruses.** 178 plants representing 35 genera gave specific RT-PCR fragments using the potyvirus specific primers. Sequencing of the DNA fragments from 27 of the genera has shown that they are from seven different potyvirus species, six of them previously undescribed and so we have given them the names we use here:

- ceratobium mosaic virus (CerMV) was found in many plants from the Ceratobium group of *Dendrobium* species, which is probably the largest group of orchids grown for cut flowers in Asia. The virus has also been found in plants of 19 other genera (*Acropsis*, *Appendicula*, *Beadlea*, *Bulbophyllum*, *Cattleya*, *Coelogyne*, *Dendrochilus*, *Diplocaulobium*, *Eria*, *Eriopexis*, *Eulophia*, *Flickingeria*, *Grammatophyllum*, *Grastidium*, *Inobulbon*, *Oeceoclades*, *Paphiopedilum*, *Pedilonum* and *Phragmipedium*) in collections from eastern Australia. The gene sequences of different isolates of CerMV differ by up to 10%, and this suggests that the virus is probably endemic to Australia, and has spread by vectors or in plants from the wild into the orchid collections. CerMV is a member of the bean common mosaic subgroup of potyviruses, but it is quite distinct from dendrobium mosaic virus, which is another member of the group. CerMV seems not to be seed-borne as several hundred seedlings raised from several infected parent plants were all virus-free;

- pterostylis virus Y (PtVY) was isolated from 5 genera of terrestrial orchids (*Pterostylis*, *Chiloglottis*, *Diuris*, *Eriochilus* and *Corybas*). Gene sequences showed that this virus is most closely related to ornithogalum mosaic potyvirus;

- sarcocochilus virus Y (SarVY) was detected in a lithophytic *Sarcocochilus*, which is a genus of orchids frequently found in collections in Australia. Like CerMV it is a distinct species in the bean common mosaic subgroup;

- pleione virus Y (PleVY) was found in imported plants of *Pleione*, and in several *Pleione* species in a specialist nursery in England. These orchids come from cold climate regions of China, and are sought by European collectors. Genome sequences show that PleVY is distantly related to yam mosaic potyvirus;

- rhopalanthe virus Y (RVY) was found in an imported plant of *Dendrobium philippinense* (of *D. sect. Rhopalanthe*). It is distantly related to calanthe mild mosaic potyvirus;

- diuris virus Y (DiVY) was found in several plants of *Diuris ori-*

*entis* collected in its natural habitat in Western Victoria. This is the first confirmed isolation of a potyvirus from a wild endemic orchid, and may be the first world record of any virus from a wild orchid. DiVY is also a member of the bean common mosaic subgroup of potyviruses;

- bean yellow mosaic (BYMV) was isolated from several species of the Australian terrestrial orchids, *Diuris* and *Pterostylis*. BYMV occurs worldwide in several crop legume, bulb flower and orchid species, but the gene sequences of the Australian isolates differed significantly from one found in a *Masdevallia* plant from a European collection.

- potyvirus infection was also detected by RT-PCR in *Dracula*, *Malaxis*, *Oberonia*, *Rhynchophreatia* and *Sayeria* but we have not yet determined the nucleotide sequences of the DNA fragments produced by RT-PCR so we do not know which potyvirus(es) are present in these plants.

**Rhabdoviruses.** Orchid fleck virus (OFV) was found to be common in some collections and in many genera (*Angraecum*, *Baptistonia*, *Bulbophyllum*, *Cattleya*, *Cymbidium*, *Dendrobium*, *Diplocaulobium*, *Dockrillia*, *Flickingeria*, *Hormidium*, *Liparis*, *Masdevallia*, *Maxillaria*, *Miltonia*, *Odontoglossum*, *Oncidium*, *Polstachya*, *Stanhopea* and *Stenia*). Gene sequences of some of these isolates together with that from Japan, showed that there were three distinct strains of OFV: two are represented by single isolates, one from Japan and the other from Germany, and the third included all the other isolates collected in Australia, Germany and Brazil. Despite gene sequence differences antisera produced against the Japanese isolate reacted with isolates from Brazil and Australia.

**Tobamoviruses.** Odontoglossum ringspot virus (ORSV) was found in 28 plants from 12 genera (*Brassavola*, *Coelogyne*, *Cymbidium*, *Dendrobium*, *Diplocaulobium*, *Grammatophyllum*, *Grastidium*, *Kiefersteinia*, *Maxillaria*, *Phalaenopsis*, *Pleurothallis* and *Rhynchophreatia*). DNAs from some plants were sequenced and found to be almost identical to those of ORSV isolates from Asia.

**Tospoviruses.** Several plants of *Pterostylis curta*, *P. hispidula*, *P. plumosa*, *P. reflexa*, *P. revoluta*, and *P. aff. parviflora* from 5 locations in the A.C.T. and inland N.S.W and Victoria (over a range of more than 300 kms) were found to show chlorotic blotch symptoms. Tests of several plants from all 5 locations, first by electron microscopy and then by RT-PCR, showed them to be infected with a previously undescribed tospovirus. This virus, which we call pterostylis blotch tospovirus, has gene sequences that are related to, but distinct from, those of other tospoviruses, and its virions only react weakly with antisera against tomato spotted wilt and impatiens necrotic streak viruses.

The RT-PCR survey of viruses in Australian orchids revealed, as expected, more viruses than electron microscopy did. Few of the plants were found to be infected with one than one virus, but these showed more severe symptoms than singly infected plants (Fig. 10). Furthermore, although not all plants were tested with all primers, only about a half reacted in the RT-PCR tests even though the plants showed clear symptoms of virus infection, this probably indicates that there are more viruses of orchids yet to be discovered. However field surveys show that virus infection is much less common in wild Australian orchids than in glasshouse collections, probably because ecological factors and subtle virus and vector specificities limit spread in the wild, but are unable to do so in dense mixed-species glasshouse collections. ●



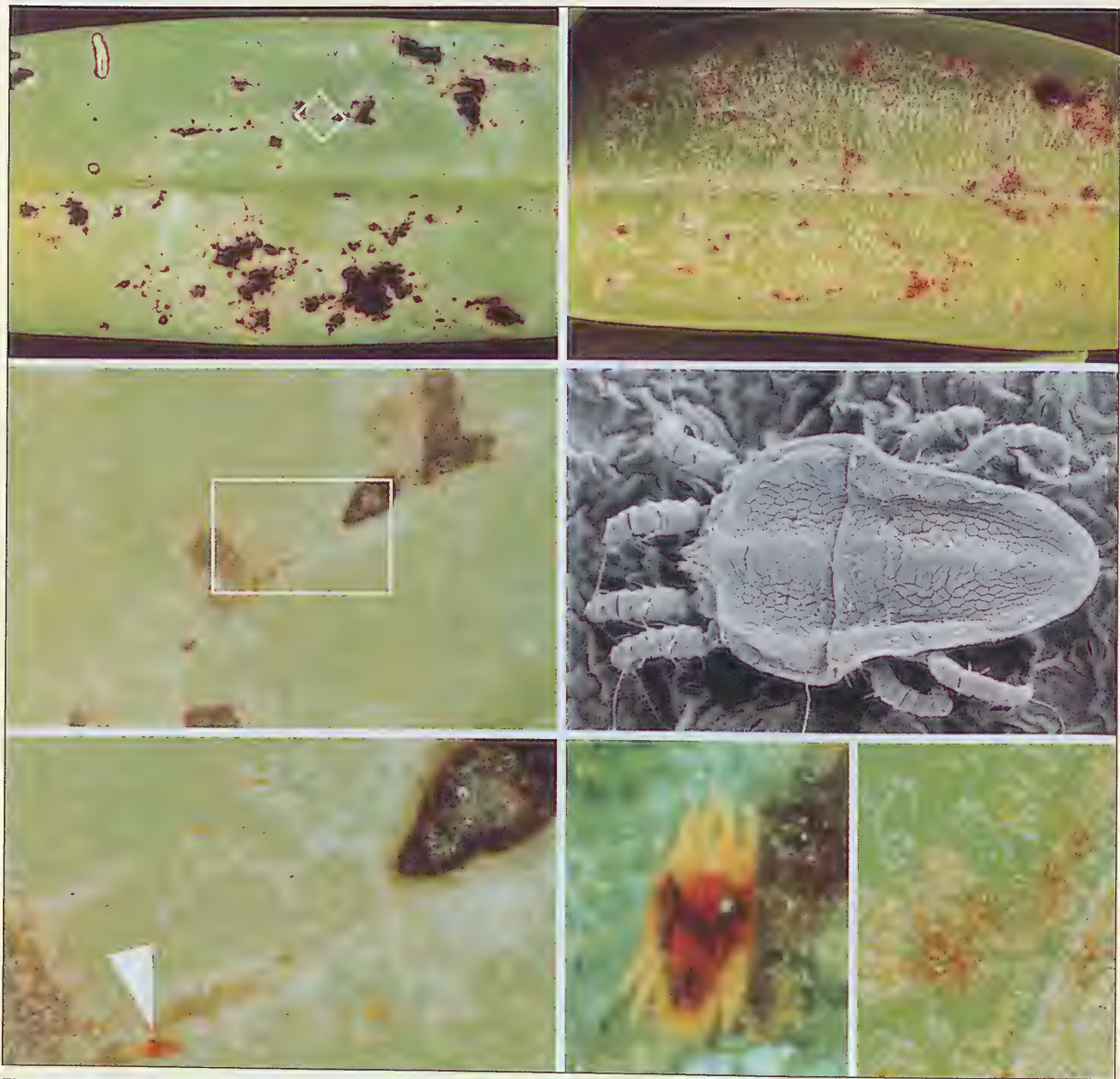
probably reflects the fact that both are directly contagious and spread readily in commercial and private collections, and are easily identified by electron microscopy and RT-PCR tests, as well as the serological tests commonly used overseas. The RT-PCR survey also showed that potyviruses are common in some Australian orchid collections (Box 3). This suggests to us that the prevalence of CymMV may have been overestimated by electron microscopy as, although CymMV produces large numbers of flexuous filamentous virions, so too do potyviruses in the early stages of infection, and so some of the infections recorded as CymMV may have been of potyviruses.

Overseas OFV is regarded as a rare pathogen of orchids but it is obviously widespread in Australian plants, indeed, because OFV virions are difficult to detect by electron microscopy, the incidence of OFV may have been underestimated in the survey.

Our work on potyviruses has shown the value of gene sequencing in virus identification, as electron microscopy did not detect how widespread they are, and could not have directly distinguished between the 13 orchid potyvirus species we found. Another noteworthy result of the RT-PCR survey is that it produced the first two direct records, known to us, of viruses in wild orchids; a potyvirus, diuris VY and pterostylis blotch tospovirus. Earlier work showed that the gene sequences of ceratobium mosaic virus are variable indicating that it too is probably a native of Australia.

**Options for controlling viruses in orchid collections**

Controlling virus spread in orchid collections must involve using a range of measures, mostly simple ones, as several different viruses with different modes of spread are known to infect orchids.



**Fig. 8** False spider mites and the symptoms they cause. The top two photographs are of leaves of *Dendrobium taurinum*. That on the right shows the white furrows of empty epidermal cells caused by the feeding of the false spider mite, *Brevipalpus californicus* (TENUIPALPIDAE), the vector of orchid fleck rhabdovirus, and that on the left also shows dark necrotic lesions probably caused by the virus. **Mid left:** An enlargement of the area of the top left photograph outlined by a rectangle.

**Bottom left:** An enlargement of the area of the mid left photograph outlined by a rectangle. Note the single adult mite (arrowed) and several larval mites. **Bottom middle:** the adult mite. Note the green markings, which are the diverticulae of its gut filled with plant material. **Bottom right:** an area of the leaf at the same magnification as that in the bottom left photograph showing mite eggs. **Mid right:** a scanning electron micrograph of an adult *B. phoenicis*.





**Fig. 9** Tospovirus: a plant of *Pterostylis curta* infected with pterostylis blotch tospovirus

First it is important to treat all new stock as potentially infected and employ simple quarantine measures when they are first acquired. For example treat them to remove all potential vectors before putting them in the collection, and keep them separate from existing stock until new leaves have grown and can be seen to be healthy, etc.

It is then important to minimize spread of viruses within the collection bearing in mind that viruses spread between plants in different ways:

- contagious viruses like potexviruses and tobamoviruses spread between plants when they touch, and when they are handled or when contaminated tools are used. Therefore it is essential to arrange plants on glasshouse benches so that they cannot touch, and this also slows the movement of pests and vectors around the collection. Don't touch plants unless it is essential, and wash hands and tools with soap and water before and after each plant is touched as virions are rapidly disrupted by soaps and detergents. Tombusviruses and, perhaps, tobamoviruses spread in contaminated soil water, and so may spread between plants if they share water trays or hydroponic systems.

- most plant viruses are transmitted by aerial vectors, including aphids, leafhoppers, planthoppers, thrips and mites, and so populations of these animals must be controlled by appropriate measures. It is important to control all potential vectors in a glasshouse containing an orchid collection. Most potyviruses, for example, are transmitted by a wide range of aphid species; not only by aphids that live on orchids, but also by migrating aphids that probe plants to check whether or not they are preferred hosts. Flying insects and mites often settle on the clothes of people walking in the open, and the simplest way to stop such hitch-hikers entering a glasshouse and starting an infestation is to don a light overall when entering a glasshouse as this crushes insects on clothing.

- a significant number of plant viruses are transmitted by soil-borne vectors, such as nematodes and fungi, so it is always best to use sterile rooting medium for terrestrial orchids.

- many plant viruses are seed-borne, but rarely to all the seedlings reared from a seedlot. Thus virus-free plants can often be selected from among the progeny of a virus-infected plant.

Thus a combination of simple measures consistently applied will control the spread of viruses into, and within, an orchid collection.

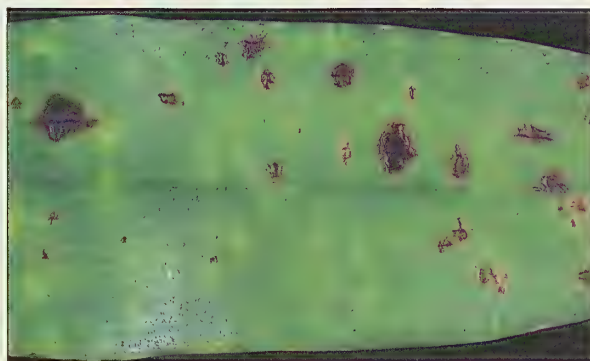
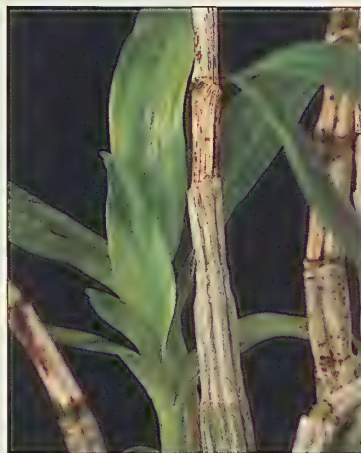
### Acknowledgements

We are very grateful to Yeh Shyi-Dong and Chu Fang-Hua of the National Chung Hsing University, Taiwan for providing the sequences of the redundant primers against tospovirus RNA polymerase gene, and Tetsuo Tamada and Hideki Kondo of Okayama University, Japan for providing the sequences of primers against the OFV nucleoprotein gene.

We thank David Banks, Colin Clay, Alwin Clements, Jim Cootes, the late Ralph Crane, Frank Fogliati, Chris French, Don Gowanlock, David Jones, Dietrich Lesemann, Ray Nash, Helen Richards, Darryl Smedley and Ben Wallace for providing plant samples; Jeff Wilson, Owen Schwartz and David Pettifor for photography; Christine Larsen, Leanne Brown and Steve Dempsey for maintaining a collection of virus infected orchids and propagating their seedlings; Dennis Persley for serological tests of pterostylis blotch samples; and Bruce Halliday for mite identification.

Samples of virus infected leaves were imported under AQIS permits 199903174 and 199908003.

We are very grateful for the financial support of the Australian Orchid Foundation.



**Fig. 10** Mixed infections:  
**Top:** flower of *Cattleya* sp. infected with ceratobium mosaic potyvirus and cymbidium mosaic potexvirus;  
**Middle:** shoot of *Dendrobium* hybrid infected with the same two viruses as a.;  
**Bottom:** leaf of *Dendrobium* hybrid infected with orchid fleck rhabdovirus and cymbidium mosaic potexvirus.



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# Satyrium carneum, a South African Giant

by Brian Milligan

The genus *Satyrium* comprises over a hundred terrestrial orchid species, mainly native to south and central Africa, although a few species also occur in Madagascar and India. In common with most Australian terrestrial orchids, satyriums have a leafless dormant period during the hot, dry season. Then, with the onset of cool wet weather, growth begins again from the dormant tubers.

I have grown plants of *Satyrium candidum*, a native of Cape Province (Republic of South Africa) for several years. The plants have grown well and multiplied prolifically each year but few plants have flowered and their small, whitish, fragrant flowers have failed to impress me. I said as much to George Nieuvenhoven, accomplished terrestrial orchid grower from South Australia, during one of his occasional visits to Melbourne. On his next visit George presented me with a small plant of *Satyrium carneum* with the comment "see if you're disappointed with this one" — all terrestrial



*Satyrium carneum* plant in September, showing the large twin leaves and developing flower stem with clasp bracts. The pot is 125 mm in diameter.



Comparison of its flowers with those of *Satyrium candidum* (left) show that *Satyrium carneum* is truly an African giant. The spurs are mostly hidden by the closely spaced flowers but two can be seen at bottom right.

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Close-up showing the white interior and pink exterior of *Satyrium carneum* flowers. Hand-pollinated flowers failed to set seed.

orchids are beautiful to George! He recommended that I grew it together with my Australian terrestrial orchids, that is, in a shade house with a fibreglass roof and shade-cloth walls and roof cover.

The plant grew well during that season but failed to flower, even though its twin

broad leaves were vastly larger than those of *S. candidum*. Last year the plant grew even more vigorously, the size of its leaves being most easily gauged by comparison with its 125 mm diameter pot. The flowering stem began to develop in September until by October it was 700 mm tall. The 130 mm inflorescence carried 36 buds, which opened sequentially, most of the flowers still remaining in good condition by the time the uppermost buds had finally opened. Each of the closely spaced flowers was 15-20 mm in diameter, the interior being white and the exterior pink. In common with many other African orchids, the flowers carried a spur, in this case 20 mm long and pressed closely to the stem. The only disadvantage of this magnificent orchid is that its flowers seem prone to fungal spotting, even though a fibreglass roof sheltered the plant and the flowers of other orchids nearby were unaffected.

*Satyrium carneum* is found among sand-dune vegetation on coastal hills and ridges at an altitude of 15-300 m in Southwest Cape (Republic of South Africa), where it flowers from September to November. It's a truly impressive orchid. No, George, I'm not disappointed with this one!

## References.

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\* Stewart, J. and Hennessy, E.F., Orchids of Africa, The Macmillan Press, London (1981).

**Brian Milligan,**  
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Dormant tubers, photographed in late December, that arose from the original plant during the last two years.

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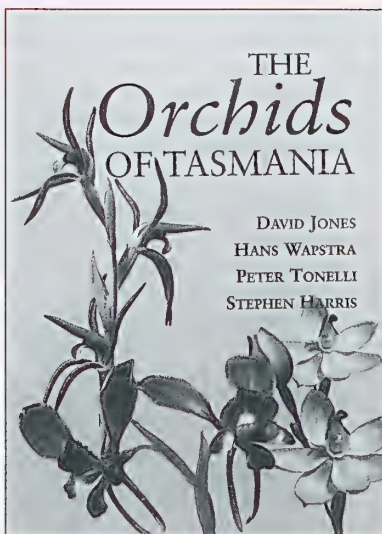
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To put it simply, *The Orchids of Tasmania* is the most comprehensive work ever published on the orchid flora of this island state. It is the sister volume to the outstanding and acclaimed *The Orchids of Victoria* by Gary Backhouse and Jeffrey Jeanes. This latest opus is in the same style. It is the work of four dedicated authors, headed by David Jones from the Australian National Botanic Gardens. David is arguably Australia's pre-eminent expert on the Australian flora, and is certainly one of our most prolific contemporary authors. Hans Wapstra is one of Tasmania's leading orchid specialists and is a biologist with the Tasmanian Department of Primary Industries, Water and Environment. Naturalist and photographer Peter Tonelli is the Manager of Parks and Reserves, Kentish-Latrobe Councils in northwest Tasmania. Stephen Harris is the Senior Botanist with the Tasmanian Department of Primary Industries, Water and Environment.

I was instantly impressed with this beautifully illustrated book which describes in detail every known Tasmanian orchid, 195 species in all. With one exception, there is a colour photograph of every species. The exception is the very rare *Prasophyllum perangustum*, which was only rediscovered in 1993. This species only blooms after fire. There is a line drawing of this taxon.

The introductory chapters cover impor-



tant topics such as Orchidology in Tasmania, Tasmanian Habitats, Conservation and Notes on Tasmanian Orchids.

The body of this book alphabetically covers Tasmania's orchids. For each species there are details about the type collection (location and year) full description, confusing and related species, distribution (which includes a location map), habitat, flowering period (including response to fire) and additional notes on the species under discussion. It is up to date as at February 1999, even though there may be other interesting taxa out there waiting to be discovered.

The quality of the photographs is, as expected, of a very high standard. In most cases they are close up shots to aid identification, all in sharp focus and correctly orientated. The general location of the illustrated plants is also given. In a few cases not all of these were of Tasmanian specimens – due to rarity or possible local extinction, and we therefore have "mainland" examples including *Caladenia aus-*

*tralis*, *C. cardiochila*, *C. prolata*, *Calochilus campestris*, *Chiloglottis trilabra*, *C. valida*, *Corybas fordhamii*, *Genoplesium nudiscapum*, *Prasophyllum montanum*, *Pterostylis mutica*, *P. sanguinea*, *P. tunstallii*, *P. uliginosa*, *Thelymitra improcera* and *T. mucida*. I am sure the authors would welcome photographs and information if readers know of Tasmanian examples of these taxa.

This work expands upon the full revision of the major genera undertaken by David Jones and published in 1998 as Australian Orchid Research Volume 3. There are surprisingly very few duplicated photographs.

Other highlights of the book include numerous line drawings, identification keys based on floral features, a 'leaf key' for identifying non-flowering plants, pointers to instant recognition of each species, notes on taxonomy plus a comprehensive glossary and index. There is also a full checklist of the Tasmanian orchid flora.

*The Orchids of Tasmania* will be the standard reference on the orchid flora of Tasmania. It is an outstanding volume with a rightful place in the upper echelon of Australian orchid works. It is required reading for persons interested in Australian terrestrial orchids, the flora of Tasmania, Tasmanian orchid growers, naturalists and bushwalkers and those who simply appreciate fine orchid literature. ■

David P. Banks  
Seven Hills, NSW

*Orchid Fever – a Horticultural Tale of Love, Lust and Lunacy*  
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States and still very much suffering from that long boring haul across the Pacific. I must confess that I arrived feeling like little more than a good clean up and a sleep. However, my hosts and I had some catching up to do and very quickly discussion drifted from orchids and family to that new book. Had I read "Orchid Fever"? After confessing my ignorance of this new tome, my hosts took me to the local bookstore where they purchased a copy for me.

As soon as I opened it I realised sleep would have second priority that night. I read chapters at random until I had finished. I was captivated by Eric Hansen's subtle humour and his descriptions of the sometimes bizarre, but always intensely interesting, characters to be found in the orchid fraternity. Of special interest to the author have been those involved in the international "trade" in orchids for both scientific purposes and horticulture. He also pokes good humoured fun at those of us involved in orchid judging and makes some very interesting comparisons of the ways in which orchids are appreciated by enthusiasts in Western and Eastern societies.

CITES (Convention on International Trade in Endangered Species of Wild

Fauna and Flora) is the common thread linking most of the more or less discrete stories contained in the book. The stories are purported to be factual. Given the speed and efficiency of formal and informal communication among the orchid fraternity, their veracity will soon be either generally accepted or dismissed. Hansen uses the stories to support his contention that CITES, in so far as the international trade in orchids is concerned, is flawed in both its underlying principles and the manner in which it is enforced. On the evidence presented, the bureaucrats responsible for the drafting and implementation of at least this area of CITES should provide some explanations of both the cost and effectiveness of their operations. Ultimately we all pay their salaries!

My own experience with CITES, going back to the early 1980s, predisposes me to suspect that the author's arguments are soundly based. Indeed I was asked to present a paper at the International Botanical Congress in Sydney in 1981 on plant conservation in northern Australia and in the course of my lecture was rather critical of some technical aspects of this Convention especially in so far as they were to be applied to orchids. Although some of the

problems were acted upon, many remain. Unfortunately, if a recent notice I received about the information I must supply to become an "approved propagator" is any guide, worst are yet to come. Personally my faith in CITES will not be restored until it organises a public auction for 50 mature seed pods of the most recently discovered *Paphiopedilum* species. In my view a constructive step to orchid conservation would then have been made.

I strongly recommend that you buy this book. Its underlying theme concerning CITES and orchid conservation is important to us all. Indeed I believe that this book will herald an important debate on orchid conservation and the effectiveness of CITES. I am sure that the editors of this and other important journals will offer the opportunity for those maligned in this book to justify their positions and give both sides of the broader debate the opportunity to present their arguments. Hopefully in this debate logic will prevail over emotion and self-interest but I regret to say that I have an uneasy feeling that whatever the outcome, it will only be the bureaucrats who win.

Geoff Stocker  
Malanda, Queensland

# St Ives Orchid Fair & Show

## St Ives Showground

Mona Vale Road, St Ives

18 August 2000 – 9.30am to 4.00pm

19 August 2000 – 9.30am to 4.00pm

20 August 2000 – 9.30am to 3.00pm

### SPONSORS

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Show Marshall: Garrie Bromley 02 9452 3202

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Email: clement@tpg.com.au



## Attention AOR readers and Orchid Societies

*"This and That" is a regular feature of the Australian Orchid Review and readers and Orchid Societies are invited to contribute any small news items of interest to Orchid lovers.*

*The deadline for items can be found on page 3.*

*Address all correspondence to the Editor. "This and That", Australian Orchid Review, 14 McGill Street, Lewisham, NSW 2049.*

## The Oasis Winter Orchid Extravaganza – 2000 (Our 10th Anniversary)

July is rapidly approaching and once again the five societies in the Gold Coast area will be presenting a combined show at the Oasis Shopping Centre, Broadbeach.

Sponsored by the Oasis Shopping Centre, this combined show presents an outstanding exhibition of orchids, both benched by sections/genera and in society displays.

The outstanding attraction of \$1,000 for Grand Champion and \$500 for Reserve Champion attract growers from all over Queensland and interstate and guarantee a fantastic exhibition of outstanding orchids. The show is free to the public and will be open from Thursday to Sunday inclusive.

Daily raffles, floral art displays and continuous orchid videos add to the visual attraction.

The centre contains a terrific array of specialist shops and eating facilities – as well as being attached to the Casino by convenient monorail. Undercover car parking is FREE and society bus trips are welcome.

This is an exhibition of orchids which anyone will find difficult to better – each year, if possible, it gets better and better. Surely we have reached the ultimate!!

However, for our 10th Anniversary, we are planning to surpass all previous efforts and present the ultimate.

Show schedules and further information can be obtained by ringing Wal Murphy on 07 5573 1924 or writing to PO Box 2820, Southport, Qld 4215.

## Winter Miracles – 2000

With OSCOV judges out in force, bright sunny winter days, and orchids, some vibrant others subdued in colour and in presence, together with a small army of

growers made up the inaugural Winter Miracles Show of 1999 at B&T Ferns and Orchids.

With a slightly improved even and show schedule, this year's affair to be held on the weekend of July 15th-16th at the Nursery will be even better. While more of the same will be on offer, namely a whole nursery of Australian native orchids and varied genera to purchase from, a sausage sizzle, a major raffle and of course the show itself, there will also be a guest orchid nurseryman in the form of John Stubbs from 'Riverview Orchids' in NSW.

His speciality for this weekend will be odontoglossums, oncidiums and their related genera. John will be on hand this weekend to answer any questions regarding these orchids as well as to exclusively sell a small quantity he will be bringing down with him. He has assured us that there will be approximately 35 different species for sale and some apparently never before released in Australia.

Rules governing set up times and judging will be as follows: Set-up day will be July 15th (Friday) from 12.00pm (midday) to 5.00pm, in addition to Saturday morning from 7.30am to 9.00am. Judging will then commence at 9.00am sharp and continue until 10.00am. Upon completion, the judging area will be opened to the public. It should be noted that OSCOV award judging can be performed at this event, and that this year's show will again be the traditional 'Open Show'. That is, there will not be the traditional sections of 'Open', 'Intermediate' and 'Novice', so competitors can put their skills and prowess to the test.

Major sponsorship has again been secured for this year's show from various businesses and private individuals. While prizes are usually take in the form of sashes and trophies, one of the smaller changes to the show schedule will that the champion seedling of the show will receive a sash with \$50 in prize money.

Any questions regarding Winter Miracles – 2000 should be directed to Bill and Terri of B&T Ferns and Orchids during business hours on (03) 9752 1922 or to John Evans, Show Marshall on (03) 9434 7039 – C. Kozlowski.

## Major Orchid Expo at the Royal Melbourne Show

Orchids will be one of the main features at this year's Royal Melbourne Show in September – and what a feature they will be!

Orchids will take over a large section of one of the main Halls of Horticulture for displays and two special show competitions, both with free entry.

Section entries for the competitions will be Junior, Novice, Intermediate and Open.

The Grand Champion Orchid will win \$1000 – plus a trophy and a Royal Melbourne Show sash.

The champion of each of the two show competitions will win \$500 and a sash. Each section champion will win \$100 and a sash.

*'The Royal Agricultural Society of Victoria Town and Country Orchid Expo*



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Soft Cover \$30  
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AOR 015



2000', as the display and competitions will be known, will be one of the largest exhibitions of orchids ever held in Victoria, possibly in Australia.

Invitations to enter will be sent to every orchid club in Australia. The Orchid Expo will also be open to people who are not members of an orchid club.

The first show competition will run from Thursday, September 21 to Monday, September 25 and the second from Tuesday, September 26 to Sunday, October 1.

Plants in the first show can be re-entered into the second show if they are still in good condition. Thus the Champion Orchid of the first show could also win Champion Orchid of the second show! A plant may also win a best of section in both shows.

From the two champion orchids of the shows, the judges will select an overall Grand Champion.

Judging will be to AOC standards with accredited AOC judges. Associate and student judges will also participate in the

judging panels.

The competitions are open to any person who owns and grows orchids. The usual stipulation is that the plants must have been owned for at least six months. Plants must be virus and pest free, with plants being inspected upon entry.

For further information, contact Kylie Smith, Horticulture Manager, Royal Agricultural Society of Victoria - telephone (03) 9281 7480.

## Country Orchid Clubs Challenge

The Orchids Clubs/Societies of Stawall, Ararat, Horsham, Ballarat, Bendigo, Mid Murray (Kerang) and possible Warrambol and Sunraysia (Mildura) have combined to hold an interclub Winter Show. It is proposed that each club will host the show, which this year is to be held in Stawall at the Masonic Hall, Skene Street on July 8th and 9th. As judging will be on Saturday morning the show will be open on Saturday afternoon and Sunday. Each club will have a maximum size stand in which to display their plants with a perpetual shield going to the winning club. OSCOV will be providing some speakers to enable us to hold a workshop/seminar on the Saturday afternoon. We will also be having a social evening on Saturday night. For more information contact John Welsh (03) 5358 2146 or Stephen Chalmers (03) 5453 8236.

## Barry and Coral Anderson Orchids to close

To our many customers Australia-wide Barry and I wish to advise that as of 30 June 2000 we will be closing our nursery.

It has been both a challenge and indeed a pleasure to seek out and to make available many exotic species and of course a lot of our own native orchids, all at reasonable prices for the average grower. We know this has been appreciated by your comments over the years.

We have made many wonderful friends through the orchid fraternity and we hope that these continue on. No doubt we will catch up with many of you at various orchid shows and conferences throughout the years, as we intend to maintain a small collection for our own enjoyment.

Thank you all for your past custom and for your friendship over the past years and may you enjoy good orchid growing for many years to come and please keep in touch - *Coral Anderson, 406 Yurof Forest Dr., Pomona 4568.*



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### S A L E

20 + LARGE PLANTS READY FOR DEFLASKING NOW

- A - Paph gratixianum
- B - Paph villosum
- C - Paph parishii x malipoense
- D - Paph Harrisianum 'Balls' x micranthum
- E - Paph Shady Lady x Callo-Day

15 + LARGE PLANTS READY FOR DEFLASKING NOW

- F - C labiatia
- G - C labiata x C Hawaiian Flare
- H - C portia 'Coerulea' x C loddigessii 'Coerulea'

### 2 FOR \$ 10.00 SPECIAL

- 1 of Paph glaucophyllum (C), Phrag Sorcerer's Apprentice (C) or Den Nagysaaki (minature f.s.) AND
- 1 of Phrag Eric Young (A), M pyxis, M veitchiana 'Prince de Gaul' AM/RHS/AOS, M Cassiope, M veitchiana 'Sol' x burfordiense, M veitchiana Sol x Mem 'Mary Chantry', M wagneriana v cucullata, M infracta, M coriacea, M kuhnorum, M burfordensis, M barleana 'Harold x veitchiana Prince de Gaul', M picea, M floribunda v turleheimii, M ephippium (trochilus), Res unnamed, Pleuro cardothalla, Pleuro culcullata (Bono x Xanthina).

### \$ 10.00 SPECIAL

- 1 of M angulata, M coccinea 'Columbian Queen' Harryana, M Imposter, M torvensis, M urceolaris

### ALL MAS & PLEURO F.S. & IMPORTED FROM COLUMBIA

- 1 of P barbigerrum (A), P charlesworthii 'Catatonk' HCC (C), P ciliolare 'Candor' (A), P glaucophyllum (D), P hennisianum (B), P lawrenceanum (B), P wardii (C), P amabile 'Silverleaf' (B), P primulinum v purpurescens 'Candor' (A), P superbiens 'BK's Fantastic HCC x Catatonk' HCC (A), P charlesworthii 'Catatonk x Windswept Hill Annette' AM (A), P delanatii '25 x Candor' (A), P spicerianum 'St Albans HCC x LaPoint' HCC (C), P superbiens 'Catatonk HCC x Sky Rockets AM' (A), P superbiens 'Warren Street HCC' (A), P liemianum 'Floradise AM' x malipoense (A), P Jennifer Kalina (chamberlianum 'Candor' x malipoense) (A), P lowii 'Superfly AM' x kalopakingii 'Candor Nine' (A), P superbiens x kalopakingii 'Candor 9' (A) Phrag Eric Young (longifolium 'Candor' x besseae 'Candro Red Radiance') (D) Phrag Sorcerer's Apprentice (longifolium 'Candor' x sargentianum 'Candor') (E)

### \$ 20.00 SPECIAL

- 1 of P venustum album (B), P godefroye 'Cayuga x Candor HCC' (A), P hookerii 'Cayuga HCC x Catatonk AM' (A), P superbiens 'Catatonk HCC x Sky Rockets AM' (D), P superbiens 'Warren Street' HCC (D), P charlesworthii 'Catatonk x Windswept Hill Annette' AM (D), P lowii 'Superfly AM x kalopakingii Candor 9' (C), P superbiens x kalopakingii 'Candor 9' (C)

ALL PAPHS & PHRAGS IMPORTED FROM U.S.A.

A=5cm B=7.5cm C=10cm D=12.5cm E=15cm



# New Orchid Hybrids

SEPTEMBER/OCTOBER/NOVEMBER 1999 REGISTRATIONS

Supplied by the Royal Horticultural Society as International Registration Authority for Orchid Hybrids

NAME	PARENTAGE	REGISTERED BY
<b>ANGULOCASTE</b> Portugal Elvira	<i>Lyc. schilleriana</i> x <i>Ang. clowesii</i>	(O/U = Originator unknown)
<b>ASCOCENDA</b> Cody Ching Katherine Majewski Lorraine Wills Natalie Majewski Pokai Gold Varut Fuchsia Varut Leopard	<i>V. Hilo Fantasy</i> x <i>Ascda. Yip Sum Wah</i> <i>Ascda. Norma Majewski</i> x <i>Ascda. Ng Hee Seng</i> <i>V. Dona Rome Sanchez</i> x <i>Ascda. Meda Arnold</i> <i>V. denisoniana</i> x <i>Ascda. Guo Chia Long</i> <i>Ascda. Mini Kam</i> x <i>Ascda. Pokai Victory</i> <i>V. Antonio Real</i> x <i>Ascda. Frances Grimshaw</i> <i>V. Udom Pranern</i> x <i>Ascda. Suksamran Spots</i>	G. Rios
<b>BAPTICIDIUM</b> Peakfarm Amber	<i>Bapt. echinata</i> x <i>Onc. harrisonianum</i>	M. Mineta
<b>BEALLARA</b> Tropic Delight	<i>Bllra. Tropic Splendor</i> x <i>Oda. Remembrance</i>	H. Rohrl
<b>BRASSIDIUM</b> DiPozzi Maestoso	<i>Brs. Edvah Loo</i> x <i>Onc. sarcodes</i>	Fl. Edmondo Pozzi
<b>BRASSOCATTLEYA</b> Eva's Travesura Isia Nena Jolene Pace Marian Hamasaki Rosa Tardia	<i>C. trianaei</i> x <i>Bc. Country Road</i> <i>C. Cherry Chip</i> x <i>B. digbyana</i> <i>Bc. Olympic Meadows</i> x <i>C. Lucille Small</i> <i>Bc. Deesse</i> x <i>C. Brussels</i> <i>Bc. Pastoral</i> x <i>C. Cognac</i>	Orquideas Eva R. Sobrinho P. Pace (Kruil-Smith) C. Shirinzu (W. Nishimoto) R. Sobrinho
<b>BRASSOLAEIA</b> Beatriz Sauer Rio DiPozzi Lugano Tiny Kiss	<i>B. pernit</i> x <i>L. cinnabarina</i> <i>B. nodosa</i> x <i>L. sincorana</i> <i>B. nodosa</i> x <i>L. kettiana</i>	A. Sauer Fl. Edmondo Pozzi Suwada Orch.
<b>BRASSOLAEIOCATTLEYA</b> Abricot de Valec Appassionata Aussie Daffodil Tnt Aussie Sunrise Tnt Aussie Wire Berton Miskimen Camila Sauer Camila Varies Japur	<i>Lc. Autumn Symphony</i> x <i>Blc. Waikiki Gold</i> <i>Blc. Toshie Aoki</i> x <i>Blc. Norman's Bay</i> <i>Blc. Dan O'Neil</i> x <i>Lc. Aussie Sunset</i> <i>Blc. Toshie Aoki</i> x <i>Blc. Terry Warne</i> <i>Blc. Oconee</i> x <i>Blc. Erin Kobayashi</i> <i>Blc. Golden Queen</i> x <i>Lc. Berton</i> <i>Lc. Issy</i> x <i>Bc. Pastoral</i> <i>L. tenebrosa</i> x <i>Blc. Orange Nuggett</i>	B. Thoms E. Young O.F. H. Rohrl S. Mitamura (W. Nishimoto) Fl. Edmondo Pozzi C. Shirinzu (S. Mitamura) Claude Hamilton (O/U)

NAME	PARENTAGE	REGISTERED BY
<b>BRASSOLAEIOCATTLEYA</b> (continued) Ching Hua Nugget Diana Linden Don's Legacy Don's Tradition Eva's Matecaea Fantasia de Esperanza Fred's Gold Fred's Goldfield Goat Castle Islands Sunset Kalama Valley Star Little Brown Magic Princess Marion Parten Memoria Edna Gill Memoria Gentle-Giant Don Memoria Herbert Kawatani Memoria Ron Mulligan Memoria Shirley Witham Memoria Shivas Gold Merkel's Heather Metelli Forest Miskimen's Gold Noche Caribe Normanglow Peggy's Joy Peter James Pisgah Splendor Quietly Inspiring Rebel Yell Rocio Temprano Ronald Pace Runiko Tanaka Shelle's Spirits Shi Kang Dragon Shi Kang Sunset Tanya Tnt Varut Roongkamol Virgin Queen White Diamond	<i>L. brierlei</i> x <i>Blc. Makaha Gold</i> <i>Blc. Miskimen's Gold</i> x <i>Bc. Pirate's Fortune</i> <i>Blc. Valmer</i> x <i>C. Horace</i> <i>Blc. Apricot Flare</i> x <i>Blc. Love Me Tender</i> <i>Blc. Faye Miyamoto</i> x <i>C. Fantasia Jbara</i> <i>Blc. Waikiki Gold</i> x <i>C. Tin Roof</i> <i>Lc. Angel Touch</i> x <i>Blc. Waikiki Gold</i> <i>Blc. Jet Stream</i> x <i>Blc. Goldenzelle</i> <i>Bc. Lisa Ann</i> x <i>Blc. Waikiki Sunset</i> <i>Bc. Star Ruby</i> x <i>L. tenebrosa</i> <i>Blc. Memoria Helen Brown</i> x <i>Lc. Little Oliver</i> <i>Lc. Princess Margaret</i> x <i>Blc. Amy Wakasugi</i> <i>Lc. Schilleriana</i> x <i>Blc. Vermonts Green Mountains</i> <i>Blc. Meditation</i> x <i>C. Esbells</i> <i>Blc. Tribute</i> x <i>Blc. Medea Noche</i> <i>Blc. Maitland</i> x <i>Blc. Gladys Yee</i> <i>Lc. Janette Mulligan</i> x <i>Bc. Donna Kimura</i> <i>Blc. Junko</i> x <i>Lc. Mildred Rives</i> <i>Blc. Fortune</i> x <i>Blc. Headyal Delight</i> <i>Lc. Irene Finney</i> x <i>Blc. Norman Merkel</i> <i>Blc. Rita Coffman</i> x <i>C. dowiana</i> <i>Blc. Hanako Omura</i> x <i>Blc. Berton Miskimen</i> <i>Blc. Oconee</i> x <i>Lc. Firebon</i> <i>Lc. Amber Glow</i> x <i>Blc. Norman Merkel</i> <i>Lc. Peggy Huffman</i> x <i>Blc. Joyful</i> <i>Blc. Michael Gaine</i> x <i>B. nodosa</i> <i>Blc. Royal Splendor</i> x <i>Blc. Oconee</i> <i>C. Irene Holguin</i> x <i>Blc. Sylvia Fry</i> <i>Blc. Oconee</i> x <i>Lc. Ovalton</i> <i>Blc. Meditation</i> x <i>Lc. Amber Glow</i> <i>Lc. Christ Merkel</i> x <i>Blc. Oconee</i> <i>Lc. Leafwood Lane</i> x <i>B. digbyana</i> <i>Lc. Shelle Compton</i> x <i>B. digbyana</i> <i>Blc. Shi Kang Sunset</i> x <i>Blc. Chunyeath</i> <i>Blc. Maitland</i> x <i>Blc. Varut Thundercloud</i> <i>Blc. Zizie Fry</i> x <i>Bc. Donna Kimura</i> <i>Lc. Mari's Song</i> x <i>Blc. Erin Kobayashi</i> <i>Blc. Elizabeth Hearn</i> x <i>C. Horace</i> <i>Blc. Tung-Nol Pink</i> x <i>Blc. Pink Diamond</i>	Ching Hua I. Linden (J. Miskimens) F. Komiya (D. Herman) F. Komiya (D. Herman) Orquideas Eva R. Sobrinho F. J. Bergman F. J. Bergman Stewart Orch. F. Komiya (O/U) F. Komiya (O/U) Suwada Orch. H. Ford (O/U) J. Grezalfi A. Ochs A. Ochs F. Komiya (D. Herman) S. Mitamura (T. Okinaka) L. Mulligan S. Mitamura (T. Okinaka) K. Phinyophan L. Hammer (G. Merkel) G. Silvera I. Linden (O/U) R. Sobrinho Alberts/Merkel Y. Nakahara Claude Hamilton (P. James) Owens Orchids Don Massey Stewart Orch. R. Sobrinho P. Pace (Muses' Trop.) M. Mineta Suwada Orch. Ching Hua Ching Hua Taylor Made Orch. (L. Topp) K. Vejanut Y. Nakahara W. Saengsagwan B. Thoms E. Young O.F. H. Rohrl S. Mitamura (W. Nishimoto) Fl. Edmondo Pozzi C. Shirinzu (S. Mitamura) Claude Hamilton (O/U)
<b>BULBOPHYLLUM</b> Frank Smith	<i>Bulb. lobbil</i> x <i>Bulb. carunculatum</i> †	B. Thoms
<b>CALANTHE</b> Augres	<i>Cal. Gorey</i> x <i>Cal. Five Oaks</i>	E. Young O.F.
<b>CATTLEYA</b> Dark Charm Darlene Shigemoto DiPozzi Via Veneto Iris Wong Memoria Tom Fennell	<i>C. Chamberlainiana</i> x <i>C. aelandiae</i> <i>C. Mandu</i> x <i>C. Green River</i> <i>C. forbesii</i> x <i>C. Pao da Acucar</i> <i>C. Hawaiian Wedding Song</i> x <i>C. Vickie Andrews</i> <i>C. Antigo</i> x <i>C. Fascells</i>	H. Rohrl S. Mitamura (W. Nishimoto) Fl. Edmondo Pozzi C. Shirinzu (S. Mitamura) Claude Hamilton (O/U)



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<b>CATTLEA (continued)</b>			<b>DENDROBIUM (continued)</b>		
Millennium Perfection	C. J. A. Carbone x C. Earl	Don Massey	Burana Gold	Den. Chairsi Gold x Den. Thongchai Gold	P.Buranaraktham
Nifa Curiosa	C. Baby Kay x C. Cognac	R. Sobrino	Burana Min	Den. Burana Fancy x Den. Minnie	P.Buranaraktham
Premier Neige	C. Marsabel del las Casas x C. Earl	Y. Nakahara	Burana Pearl	Den. Hirota White x Den. Burana Stripe	P.Buranaraktham
Rocio Tropical	C. Iodigesi x C. Alice Pearce	G. Silvera	Burana Pink	Den. Datto x Den. Burana White	P.Buranaraktham
Shelley Spots	C. schilleriana x C. Coquina	Lehua (Golden Gate)	Burana Sundae	Den. Kanehe Beauty x Den. Burana Sunshine	P.Buranaraktham
<b>CATTLEYTONIA</b>			Burana Sunshine	Den. Betty Goto x Den. Halawa Beauty	P.Buranaraktham
Blossom Power	Cina. Capti x C. Horace	D. Neuendorff	Burana Wan	Den. Burana Fancy x Den. Madame Uraivan	P.Buranaraktham
Jamaica Gypsy	C. bowringiana x Bro. negrilensis	Claude Hamilton	Burgundy Bride	Den. Burgundy Cream x Den. Rutherford Blushing Bride	Down Under N.O.
Jamaica Splash	Cina. Hamlyn's Flared Tartan x Cina. Capri	Claude Hamilton	Cheryl's Glory	Den. Colonial Surprise x Den. kirgianum	I. Klein
Port Maria	Cina. Hamlyn's Red Bug x Cina. Hamlyn's Flared Tartan	Claude Hamilton	Claret	Den. Angellene x Den. Memoria Reg Sheen	N. Mitchell
Westmoreland	Bro. Little London x Cina. Orglade's Little Lover	Claude Hamilton	Coote	Den. Elegant Heart x Den. Zip	Down Under N.O.
<b>CHRISTIEARA</b>			Dale Tydd	Den. Broiga x Den. kirgianum	N. Mitchell
Viraphandhu Delight	Ascd. Khun Nok x Chitra. Jlad	R. Viraphandhu	Dianne Gee	Den. Desmond Gem x Den. Yondi	N. Mitchell
<b>CYCNODES</b>			Gazette	Den. Angellene x Den. Visheen	Down Under N.O.
Stephen Moffitt	Morm. maculatum x Cym. chlorochilon	Michael L. Levin (H & R)	George Shultz	Den. Cheddi Jagan x Den. canaliculatum	N. Mitchell
<b>CYMBIDIUM</b>			Glenifer	Den. Roslyn Harrison x Den. Visheen	Singapore Bot. Gdns
Baroness Lucy	Cym. Lady Lucy x Cym. Pearl-Balkis	R. Tucker (O/U)	Golden Treat	Den. Broiga x Den. Ray's Dream	N. Mitchell
Chickia	Cym. Ruby Eyes x Cym. devonianum	R. Tucker	In Lin	Den. lineale x Den. insigne	Mrs M. Korsman
Flaming Orange	Cym. Ivy Flame x Cym. Via Del Playa	R. Tucker	Inti Illimani	Den. Thailand x Den. Memoria Manuel Santana	B. Febo
Hot Chocolate	Cym. Yowie Flame x Cym. Volcano	R. Tucker	Jamica Plum	Den. helix x Den. Whitsunday Island	Mrs M. Korsman
Kiwi Autumn	Cym. Yowie Flame x Cym. Lunara	R. Tucker	Julie Tydd	Den. Walter Ournae x Den. Marado	Claude Hamilton
Kiwi Beauty	Cym. Via Del Playa x Cym. Red Beauty	R. Tucker	Lace River	Den. Kay's Choice x Den. Ray's Dream	N. Mitchell
Lady Sheridan	Cym. Granville x Cym. Solana Beach	R. Tucker	Lake Land	Den. Elegant Lace x Den. Red River	Down Under N.O.
Lovely Snow	Cym. Paradise Wonder x Cym. Lovely Angel	R. Tucker	Lau Eng Kiek	Den. bigbbum x Den. Black Cat	K. Vejarut
Maui Winter	Cym. Minette x Cym. mastersii	Bryants (A.R. Bryant)	Lynwong	Den. Ng Eng Cheow x Den. Lady Hamilton	H.Y. Lau
Mona Hrsfield	Cym. Borough Green x Cym. Intermission	G. Russell	Malayan Orange	Den. tangerinum x Den. Lilholho	N. Mitchell
Pristine Spring	Cym. Winter Alvin x Cym. Blush of Spring	I. Klein	Memoria Earl Finch	Den. Kuranda Classic x Den. Tora Ohashi	Green Tech (M. Fukushima)
Pure Choice	Cym. Pure Love x Cym. Altwick Castle	Bryants (A.R. Bryant)	Midori Kavamoto	Den. Thailand x Den. Kuranda Classic	Kamaaina
Pure One	Cym. Peetle x Cym. Red Beauty	R. Tucker	Naomi's Pride	Den. Berry x Den. Paula's Pride	G. Leafberg
Rainbow Nation	Cym. Annan x Cym. Bexley Radiance	G. Russell	Orange Star	Den. Malayan Orange x Den. tangerinum	Green Tech (M. Fukushima)
Sarafina	Cym. Peter Dawson x Cym. Alegria	R. Tucker	Peaches and Cream	Den. Lumina x Den. Joanna Mesina	Puanani
Sir Joe	Cym. Stargard x Cym. Paradise Wonder	R. Tucker (R. Neale)	Red Choice	Den. Kristen Ann x Den. Claire	K. Vejarut
Star Paradise	Cym. Laura Arda x Cym. Choccolada	G. Russell	Red Jewel	Den. Thailand x Den. Black Cat	K. Vejarut
Strath Beauty	Cym. Winter Wonder x Cym. Coraki	R. Tucker	Red Maroon	Den. Black Cat x Den. Doctor Poyck	N. Buranaraktham
Strath Wonder	Cym. Mount Tarawera x Cym. Claude Pepper	Bryants (A.R. Bryant)	Rosemary Isabelle	Den. Sarah Jane x Den. Ruppelsum	P. Farlow
Tarawera Pepper	Cym. pumilum x Cym. parishii	Tom Burian Orch.	Shirley	Den. Michael Sado x Den. Marcie Girl	Kamaaina (S. Suzuki)
Tea Time	Cym. Wonder Ac x Cym. Gardalvin	Tom Burian Orch. (Lambert Orch.)	Sumruay	Den. Thailand x Den. Mae-Klong River	K. Vejarut
Viking King	Cym. Yowie Flame x Cym. Rose Hill	R. Dix (R. Tucker)	Urlinga Belle	Den. Angellene x Den. Zipalong	N. Mitchell
Yowie Hill	Cym. Yowie Flame x Cym. Tapestry	G. Russell	Vai Rochana	Den. Singapore White x Den. dalbertsii	B. Febo
Yowie Tapestry		Bryants (A.R. Bryant)	Vista	Den. Roslyn Harrison x Den. Zipalong	N. Mitchell
<b>DENDROBIUM</b>			Zipper	Den. Zip x Den. Bicentennial Rose	G. Webb (Down Under N.O.)
Abu Hassan Omar	Den. Orange Star x Den. lasianthera	Green Tech (M. Fukushima)	DISA		
Bellinger Beauty	Den. Memoria Reg Sheen x Den. Visheen	N. Mitchell	Fedure	Disa Unioam x Disa Robert Oywes	S. & M. Oywes
Bellinger Surprise	Den. Zipalong x Den. Visheen	N. Mitchell	Kim Round Table	Disa Tribett x Disa Betty's Bay	S. & M. Oywes
Biddy	Den. Elegant Heart x Den. Desmond Gem	Down Under N.O.	Nedbank	Disa Watsonii x Disa Colette Oywes	S. & M. Oywes
Black Cat	Den. Grace Okabe x Den. Red Choice	K. Vejarut	<b>DORITAENOPSIS</b>		
Boon Burana	Den. Boonchoo Gold x Den. Burana Fancy	P.Buranaraktham	Carmela's White Puff	Dips. Zuma White Puff x Phal. Shiray Hino	Lenette (Carmela)
Burana Beauty	Den. Banyad Pink x Den. Burana Stripe	P.Buranaraktham	Carolina White Puff	Dips. Carmela's White Puff x Dips. Soroa Corazon	Lenette
			Caryn Coll	Dips. Bronze Idol x Phal. Fireberry	Mrs C. Coll
			Chian-Huey Red Rose	Dips. Taisuco Firebird x Phal. New Cinderella	J.S. Wu



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<i>DORITAENOPSIS (continued)</i>			HERBERTARA		
Delray Orchid Society	Dtps. Modern Beauty x Phal. Gallant Beau	Alberts/Merkel	Rubycinis	Slc. Ruby's Delight x Schom. tibirinis	H.Rohrl
Dou-dii Black Stripes	Dtps. Minho Princess x Phal. Golden Sun	Ching Her	KIRCHARA		
Fangtastic Hiroshi Kotoh	Dtps. Montclair King x Phal. Carmela's Pixie	Norman's Orchids	Precious Grace	Slc. Precious Stones x Epi. gracile	H.Rohrl
Fangtastic Kenji Yoshimoto	Dtps. Montclair King x Dtps. Taisuco Firebird	F.J.Bergman	LAELIOCATONIA		
Fred's Zaubernice	Dtps. Pretty Nice x Phal. Zaubernot	Alberts/Merkel	Coqui's Orangeade	Lc. Gold Paint x Ctna. Why Not	Coqui
Harobed	Dtps. Orglade's Puff x Phal. Muriel Turner	Ching Hua	Jamaica Lover	Ctna. Maui Maid x Lc. Orange Trick	Claude Hamilton
Hsiyning Face	Phal. Hsiyning Fair x Dtps. Hsiyning Festival	Ching Hua	Jamaica Maid	Ctna. Maui Maid x Lc. Brenda Muse	Claude Hamilton
Hsiyning Nelin	Phal. Taisuco Lienhung x Dtps. Sun Prince	Norman's Orchids	Queen of Hearts	Ctna. Brandi x Lc. Angel Heart	D.Neundorff
Linda Pearlstein	Phal. Lucky Lady x Dtps. City Girl	Today Trop.Nurs.	LAELIOCAITTELEYA		
Lucky Steve	Phal. Little Steve x Dtps. Minho Princess	Kokubunji(Kinu Nurs.)	Coral Angel Tokuzato	C. Moscombe x Lc. Peggy Hufman	S.Tokuzato
Marriage Ring	Phal. Love Street x Dtps. Spottjason	T.L.Mellichamp(O/U)	DPOzzi Oriello	L. tenebrosa x C. Pao da Acucar	Fl.Edmondo Pozzi
Marty	Dtps. Mocrab x Phal. Mad Hatter	Pem Orchids	DPOzzi Portofino	L. crispa x C. aurantiaca	J.Clarkson
Memoria Anne McKee	Dtps. Elisabeth Michx x Phal. schilleriana	Kokubunji	Emily Clarkson	C. dowiana x Lc. briegeri	Hausemann
Meleor Shower	Phal. Moon Jacker x Dtps. City Girl	Norman's Orchids	Erin Katie Compton	Lc. Eleanor King x Lc. Leonard Walker	Orquideas Eva
Mocrab	Dtps. Mosel x Phal. Acrab	Today Trop.Nurs.	Eva's Brisa Mar	Lc. Dinarid x Lc. Bella	Orquideas Eva
Montclair Princess	Phal. South Pacific Stripes x Dtps. Minho Princess	Kokubunji	Forbador	C. forbesii x Lc. Dormaniana	F.J.Bergman(O/U)
Pinlong Mountain	Dtps. Pinlong Jewel x Phal. Julia Richelle	Norman Martin(Bryants)	Gold Paint	Lc. Dinarid x Lc. Gold Digger	Coqui
Pinlong Zadiana	Dtps. Pinlong Jewel x Phal. Pinlong Alice	Ching Hua	Jamaica Souvenir	C. Enid x Lc. Shellie Compton	Claude Hamilton
Pleades	Dtps. Marriage Ring x Dtps. Meleor Shower	Ching Her	Japan Beauty	Lc. Colorama x Lc. Zuiho	Y.Nakahara
Rachael's Pride	Dtps. City Girl x Phal. Sylvia Fair	Hou Tse Liu	Julinha	L. sincorana x Lc. Culminant	A.Sauer
Rite Valentine	Dtps. Rite Rose x Dtps. Happy Valentine	Alberts/Merkel	Man-A-War	C. Herbie Poole x Lc. anceps	Cal-Orchid(Geyserland)
Salu Red Apple	Dtps. Minho Pink x Dtps. Taisuco Candy Stripe	Shen Nung Agr.	Maria Helena	Lc. Orquidiario x C. loddigesii	A.Sauer
Salu's Stripes	Phal. Chih Shang's Stripes x Dtps. Minho Stripes	Stones River	Maria Regina	Lc. Orquidiario x Lc. purpurea	Claude Hamilton(O/U)
San Shia Star	Phal. Golden Butterfly x Dor. pulcherrima	Kokubunji	Memoria Hugh Tomlinson	C. aurantiaca x Lc. Spring Show	Alberts/Merkel
Sarah's Sweet Blush	Phal. Smooth Transition x Dps. Sussex Valentine	A.Klehm	Merkel's Emperor	Lc. Christ Merkel x C. Dark Emperor	Santa Barbara
Sinica Sunday	Phal. Tinny Roseheart x Dtps. Taisuco Firebird		Orange Embers	L. Santa Barbara Sunset x C. aurantiaca	Claude Hamilton(O/U)
Soft Kiss	Dtps. Kathryn Roman x Phal. Mary Vance		Orange Trick	Lc. Trick or Treat x Lc. Chicanery	J.Puig Verdura
Sweet Wine	Dtps. Happy Valentine x Phal. Hsiyning Camp		Puput Joguenera	C. bicolor x Lc. Adorado	(MichelVacherot)
Tailtha's Gem	Dtps. Talitha Klehm x Dor. pulcherrima		Purple Kiss	Lc. Tydea x C. walkariana	Suwada Orch.
DRACUVALLIA			Teca Sauer	C. labiata x Lc. fidelensis	A.Sauer
La Jolla	Mascl. velitchiana x Drac. wallisii	H.Rohrl	LOWSONARA		
DUGGERARA			Zeynepcigim	Rhds. Thai Noi x Ascim. curvifolium	J.Lizquierdo(O/U)
Fangtastic Tommy Hanes	Brs. Memoria Bert Field x Milt. Bluntii	Norman's Orchids	LYCASTE		
EPICATONIA			Autumn Sun	Lyc. macrophylla x Lyc. Autumn Glow	G.Webb
Purple Vista	Ctna. Capri x Epc. Middleburg	F.Clarke	Southern Cross	Lyc. Island of Vulcom x Lyc. Leo	T.Goshima
EPIDENDRUM			MACLELLANARA		
Eva's Viro Tinto	Epi. alatum x Epi. profusum †	Orquideas Eva	Jori's Gem	Brsdm. Florida Gem x Odm. Jorisanum	H.Rohrl
EPIPACTIS			MASDEVALLIA		
Mascara	Epcis. mairei † x Epcis. veratrifolia	Lowland-Biotech(P.Stein)	Aricot Moon	Mascl. wellschi x Mascl. datura	P.Nicholas
HAMELWELLSARA			Chamelon	Mascl. chaparensis x Mascl. Harlequin	P.Nicholas
Licorice	Z. Artur Elle x Hrmwsa. June	Adelaide	Delma Hart	Mascl. Minaret x Mascl. Night Shade	G.Hart(O/U)
HASEGAWAARA			Foxglove	Mascl. macrura x Mascl. notosibirica	Ann Jesup(G.Staal)
CHARISMATIC BEAUFORT	Hasgw. Charisma x Sc. Beaufort	D.Neundorff	Steve Vance	Mascl. Copper Angel x Mascl. princeps	I.Komoda
Fantasia	Ctna. Why Not x Pot. Love Call	Puanani			
Honourable Mention	Hasgw. Roll of Honour x Ctna. Capri	D.Neundorff			



NAME	PARENTAGE	REGISTERED BY
<b>MAXILLACASTE</b> Delta Dawn	Max. huebschil. † x Lyc. Peter Sander	Ann Jesup
<b>MAXILLARIA</b> Big Red	Max. sanderiana x Max. nigrescens †	J. Rehfield(Paradise [NZ])
<b>MILTASSIA</b> Gabriela Amgarten Star Burst	Milt. Leucoglossa x Missa. Penny Micklow Brs. Rex x Milt. Tropic Dawn	A. Schilliger Puanani
<b>MILTONIA</b> Bequet Vincent Be Happy Bo Jangles Carolina Yellow Splendor Cerselle Chagall Charline Nakamura Crystal Falls Donald Church Fremont Point Jutta Liza Doolittle Memoria Phillip Raskoff Pink Lemonade Pixie Dust Plumacious Queen Ann Que Sera Sera Sweet Pink White Pearl	Milt. Golden Butterfly x Milt. Desert Falls Milt. Melissa Baker x Milt. Mildred Wirth Klindworth Milt. Lorene x Milt. Golden Butterfly Milt. Belle Glade x Milt. Rio's Dawn Milt. Jean Carlson x Milt. Pink Splendor Milt. Hudson Bay x Milt. Jean Carlson Milt. Rio's Dawn x Milt. Queen Ann Milt. Freebird x Milt. Zorro Milt. Seminole Blood x Milt. William Kirch Milt. Faidouet x Milt. Bequet Vincent Milt. Festiva x Milt. flavescens Milt. Bleuana x Milt. Spinnaker Milt. Redford x Milt. Linelight Milt. Venus x Milt. Kay Rinaman Milt. Jean Carlson x Milt. Aysen Ono Milt. Lorene x Milt. Homecoming Milt. Purple Queen x Milt. Anne Warne Milt. roezli x Milt. schroederiana Milt. Freebird x Milt. Oise Milt. Yuko Hatsu x Milt. Lorene	E. Young O.F. Castle Rock Orch.(M.G.Harris) Castle Rock Orch.(M.G.Harris) Lennette Castle Rock Orch.(M.G.Harris) Lennette Castle Rock Orch.(M.G.Harris) N.Church(O/U) E. Young O.F. H.Rohrl Castle Rock Orch.(M.G.Harris) Norman's Orchids Castle Rock Orch.(M.G.Harris) Castle Rock Orch.(M.G.Harris) Castle Rock Orch.(M.G.Harris) Lennette(O/U) Castle Rock Orch.(M.G.Harris) Castle Rock Orch.(M.G.Harris) I.Komoda
<b>MOKARA</b> Toddman	Mkra. Sayan x Asdda. Fuchs Sunset	S. Somboonphon
<b>MONIERARA</b> Millennium Magic	Ctnchs. Midnight Jem x Morm. sinuata	L. Sanford(G.Monnier)
<b>ODONTODA</b> Alison McKay* Desormes Humpty-Dumpty Les Eclerou	Oda. Sechell x Oda. Sea Nymph Oda. Mont a l'Abbe x Odm. Torpesca Odm. Stropheon x Oda. Mont a l'Abbe Odm. Coupe Point x Oda. Ingera	J.W.Thomas E. Young O.F. J.L.Walker(Sunset) E. Young O.F.
<b>ODONTODIDUM</b> Mac's Point	Onc. maculatum x Oodcm. Sorel Point	H.Rohrl
<b>ODONTOGLOSSUM</b> Les Nemes Nancy Crees	Odm. cirrhosum x Odm. Panise Odm. pescatorei x Odm. Augres	E. Young O.F. C.Crees(P.Altmann)
<b>ODONTONIA</b> San Damiano Star	Odmn. Glass Creek x Milt. Tropic Dawn	J.L. Walker(O/U)
NAME	PARENTAGE	REGISTERED BY
<b>ONCIDIUM</b> Brittany Howard Creekside Crisbois de Valec Eclair Ecu de France Lulu New Departure Triumph Rainbow Tiger Strawberry Garnets Tardy Whither Sniffen	Onc. Totos x Onc. splendidum Onc. Regina x Onc. Sun Riff Onc. crispum x Onc. Boissense Onc. Sweetheart Rose x Onc. Sniffen Onc. Vermell x Onc. Crisbois de Valec Onc. Sniffen x Onc. Bob Dugger Onc. Golden Sunset x Onc. Belle Onc. Tiger x Onc. Rainbow Onc. Garnet x Onc. Barbie Onc. Barbie x Onc. Rainbow Tiger Onc. Sniffen x Onc. desertorum	Lennette Dr/Mrs K.Wilson Vach.& Lec. H.P.Jesup Vach.& Lec. Ann Jesup H.P.Jesup(O/U) H.P.Jesup H.P.Jesup H.P.Jesup
<b>†ORNITHOCEPHALUS (Orcp.)</b> Snowbird	Orcp. bicornis † x Orcp. myricola †	D. & M. Crawford
<b>OSMENTARA</b> Jamaica Love	Ctna. Orglade's Little Lover x Lpna. Kingston	Claude Hamilton
<b>OTARA</b> Jamaica Nugget	Ctna. Hamlyn's Red Bug x Blc. Fuchs Orange Nuggett	Claude Hamilton
<b>PAPHIOPEDILUM</b> Alien Fearneyhough Alabaster Triumph Amanda's Spirit Autumn Moon Barbi Girl Black Lace Brown Twist Claudie Roguenant Cockatoo Ridge Color My World Coverart Doris Roccaforte Doris Jean Nash Dream Maker Enchanted Snow Fancy This Fire Rooster Forever My Love Four-Four Phases Fruvolous Fuerte Gold Fuerte Jade Garnet Honey Glitterdust Green Tea Cream Gull Rock Hampshire Yellow Doell Hay-Halo Heart's Desire Ice Queen	Paph. Via Ojai x Paph. Via Anacapa Paph. Susan Tucker x Paph. Alabaster Brook Paph. W. N. Evans x Paph. Amanda Paph. Via Luna Este x Paph. Skip Bartlett Paph. barbigum x Paph. purpuratum Paph. Rollei x Paph. Sierra Lace Paph. Shireen x Paph. glanduliferum Paph. cilolare x Paph. argus Paph. barbatum x Paph. Pop Monkhouse Paph. Greyi x Paph. Winston Churchill Paph. argus x Paph. Covergirl Paph. lantha Stage x Paph. Wellesleyanum Paph. Yerba Buena x Paph. Pacific Foam Paph. Peachie x Paph. Cinderella Paph. Shaded Glen x Paph. Conco-bellatulum Paph. Jack Tonkin x Paph. Mountain Meadow Paph. sukhaluli x Paph. S. Gratrix Paph. Flame Dragon x Paph. Mario Palmieri Paph. Gege Hughes x Paph. Tomas Garcia Paph. Via Quatal x Paph. Emerald Paph. Van Ness x Paph. Freckles Paph. Prime Child x Paph. armeniacum Paph. Prime Child x Paph. malipoense Paph. Hellas x Paph. Honeycomb Creek Paph. Mountain Meadow x Paph. White Legacy Paph. Golden Acres x Paph. Greyi Paph. Morphet Vale x Paph. Colorbox Paph. Henrietta Fujiwara x Paph. insigne Paph. Halo x Paph. haymaldianum Paph. Winston Churchill x Paph. Salty Paph. Via Ojai x Paph. Memoria Toshio Miyata	G. Lawless(Orchid House) J.Cash Suwada Orch. J.Cash(J.Hanes) A.Klehm Castle Rock Orch.(W.Sinkler) Castle Rock Orch.(W.Sinkler) P.Bertaux Adelaide J.Cash(L. Buckley) Adelaide T.Takayama(M.Roccaforte) G. Lawless(Orchid House) J.Cash J.Cash J.Cash J.Cash J.Cash O.Vengkhau J.Cash Norman's Orchids J.Cash O.Vengkhau O.Vengkhau Castle Rock Orch.(W.Sinkler) J.Cash Suwada Orch. Adelaide A.Klehm Suwada Orch. J.Cash J.Cash



NAME	PARENTAGE	REGISTERED BY
<i>PAPHIOPEDILUM (continued)</i>		
Incan Treasure	<i>Paph. Inca</i> x <i>Paph. Porcelain Treasure</i>	J.Cash
Jade Lauren	<i>Paph. Meon</i> x <i>Paph. Mitylene</i>	Ratcliffe
Jelly Roll	<i>Paph. Psyche</i> x <i>Paph. callosum</i>	Castle Rock Orch.(W.Sinkler)
Joslyn Joyes	<i>Paph. Magic Mood</i> x <i>Paph. sukhatulji</i>	A.Kiehm
Kay Roy	<i>Paph. Maud Read</i> x <i>Paph. Black Velvet</i>	B.Joyes(Geyserland)
Kelley Ann Gomez	<i>Paph. barbigum</i> x <i>Paph. niveum</i>	A & P Orch.
Kelema Bellele	<i>Paph. Great Pacific</i> x <i>Paph. Mach One</i>	G.Lawless(Orchid House)
King's Ransom	<i>Paph. Van Ness</i> x <i>Paph. Conco-bellatum</i>	J.Cash
Knight Frost	<i>Paph. White Knight</i> x <i>Paph. Frosty Clover</i>	J.Cash
Knight's Victory	<i>Paph. White Knight</i> x <i>Paph. Via Victoria</i>	G.Lawless(T.Root)
Lawless on Matakaka	<i>Paph. Raisin Pie</i> x <i>Paph. sanderianum</i>	F.Jernigan
Louise Jernigan	<i>Paph. rothschildianum</i> x <i>Paph. Wellesleyanum</i>	G.Lawless(J.L.Fischer)
Matakaka Medea	<i>Paph. Pacific Thunder</i> x <i>Paph. Via Campo Grande</i>	G.Lawless(Orchid House)
Matakaka Snowfall	<i>Paph. Whitemoor</i> x <i>Paph. Golden Acres</i>	G.Lawless(Orchid House)
Matakaka Winter Sunrise	<i>Paph. Van Ness</i> x <i>Paph. Via Avila Beach</i>	A.Kiehm
Maud Beam	<i>Paph. Star Beam</i> x <i>Paph. Maudiae</i>	G.Lawless(T.Root)
Memoria Dale Lawless	<i>Paph. sanderianum</i> x <i>Paph. Voodoo Magic</i>	J.Cash(J & V.Tonkin)
Memoria Jack Tonkin	<i>Paph. Halo</i> x <i>Paph. Brown Glen</i>	Norman's Orchids
Montclair King	<i>Paph. Magic Mood</i> x <i>Paph. Inca</i>	(Rod McLellan Co.)
Morphelet Vale	<i>Paph. acmodontium</i> x <i>Paph. Goulterianum</i>	Adelaide
Mystic Snow	<i>Paph. Freckles</i> x <i>Paph. Via Victoria</i>	J.Cash
Patty's World	<i>Paph. Parry Gripp</i> x <i>Paph. World Survival</i>	Swada Orch.
Pastel Light	<i>Paph. Winston Churchill</i> x <i>Paph. Snowbird</i>	J.Cash
Peakfarm Cafe	<i>Paph. Achenlader Schwarz</i> x <i>Paph. Treasure Island</i>	M.Mineta
Pennywisser	<i>Paph. Paony</i> x <i>Paph. Voodoo Magic</i>	O.Viengkhou
Photo Booth	<i>Paph. Winston Churchill</i> x <i>Paph. stonei</i>	A.Kiehm
Pink Magic	<i>Paph. Peachie</i> x <i>Paph. Freckles</i>	J.Cash
Pink Paradise	<i>Paph. Sylvan Vale</i> x <i>Paph. Skip Bartlett</i>	J.Cash(J.Hanes)
Red Regent	<i>Paph. Red Glory</i> x <i>Paph. Paony</i>	O.Viengkhou
Sander's Parish	<i>Paph. sanderianum</i> x <i>Paph. parishii</i>	F.Clark(O.U)
Satin Touch	<i>Paph. Via Ojai</i> x <i>Paph. Helias</i>	J.Cash
Scarlet Ball	<i>Paph. Colonella</i> x <i>Paph. Scarlet Tree</i>	Swada Orch.
Shot Gem	<i>Paph. Sparsholt</i> x <i>Paph. Jolly Green Gem</i>	Swada Orch.
Shutdown	<i>Paph. wardii</i> x <i>Paph. villosum</i>	D.Pulley
Sierra Sunrise	<i>Paph. Via Luna Este</i> x <i>Paph. charlesworthii</i>	J.Cash
Silver Stone	<i>Paph. Saint Owens Bay</i> x <i>Paph. Elfstone</i>	O.Viengkhou
Snowblind	<i>Paph. Silvara</i> x <i>Paph. Green Mystery</i>	J.Cash(J.Hanes)
Snowcastle	<i>Paph. Denehurst</i> x <i>Paph. Skip Bartlett</i>	J.Cash(J.Hanes)
Snow Charm	<i>Paph. Greyi</i> x <i>Paph. Via Victoria</i>	J.Cash
Snowdance	<i>Paph. Van Ness</i> x <i>Paph. Pacific Foam</i>	J.Cash
Snowdome	<i>Paph. Frosty Clover</i> x <i>Paph. White Legacy</i>	J.Cash
Sunglow	<i>Paph. Merce-Lou Audino</i> x <i>Paph. Annette</i>	O.Viengkhou(Stewart Orch.)
Sweet Chili	<i>Paph. Macabre</i> x <i>Paph. Chili Colorado</i>	J.Cash
Sweet Dreams	<i>Paph. Winston Churchill</i> x <i>Paph. Tomas Garcia</i>	J.Cash(N.Tamrac)
Tamacity Moon	<i>Paph. Virgo</i> x <i>Paph. Frosty Clover</i>	Tokyo O.N.
Tokyo Great Pacific	<i>Paph. Vallarow</i> x <i>Paph. Tokyolantis</i>	Swada Orch.
Tokyo Yellow	<i>Paph. Tokyo Lemon</i> x <i>Paph. Yellow Tree</i>	Adelaide
Vegemite	<i>Paph. Via Prokuli</i> x <i>Paph. Voodoo Magic</i>	A.Kiehm
Velma Kelly	<i>Paph. Chiara</i> x <i>Paph. Sheila Hanes</i>	J.Cash
Whiteness	<i>Paph. White Knight</i> x <i>Paph. Van Ness</i>	J.Cash
White Shimmer	<i>Paph. Van Ness</i> x <i>Paph. White Legacy</i>	J.Cash
White Storm	<i>Paph. Freckleface</i> x <i>Paph. Freckles</i>	J.Cash(O.U)

NAME	PARENTAGE	REGISTERED BY
<i>PAPHIOPEDILUM (continued)</i>		
Winter Spirit	<i>Paph. Magic Mood</i> x <i>Paph. White Legacy</i>	J.Cash
World Stone	<i>Paph. Small World</i> x <i>Paph. Tree of Rootstone</i>	Swada Orch.
<i>PHAIACALANTHE</i>		
Andromeda	<i>Phcal. Centuari</i> x <i>Phalus tankervilleae</i>	P.C.Elliott
<i>PHALAENOPSIS</i>		
Bachman's New Century	<i>Phal. Hsinying Music</i> x <i>Phal. Chih Shang's Stripes</i>	Norman's Orchids
Carmela's Trap	<i>Phal. Pink Trip</i> x <i>Phal. Patea</i>	M.C.Thompson(Carmela)
Carol Bowman	<i>Phal. Paper Butterfly</i> x <i>Phal. Hokuioa</i>	Alberts/Merkel
Carolina Pink Efection	<i>Phal. Special Effects</i> x <i>Phal. Hilo Lip</i>	Lenette
Carolina Pink Illusion	<i>Phal. Pink Persuasion</i> x <i>Phal. Hilo Lip</i>	Lenette
Carolina Spring Dawn	<i>Phal. Dawn Treader</i> x <i>Phal. Glad Anna</i>	Ching Her
Ching Her Prince	<i>Phal. Ever-spring King</i> x <i>Phal. Golden Sun</i>	Ching Her
Ching Her's Light	<i>Phal. Golden Sun</i> x <i>Phal. Ching Her Princess</i>	Ching Her
Ching Her Stripes	<i>Phal. Chih Shang's Stripes</i> x <i>Phal. Golden Sun</i>	Alberts/Merkel
Cyndy Berninghof	<i>Phal. Happy Legend</i> x <i>Phal. Hausermann's Candy</i>	Mrs C.Coll
Dana Amstler	<i>Phal. Blue Wave</i> x <i>Phal. Brazilian Legend</i>	D.Diehm(R.Takase)
Dendri's Takase	<i>Phal. Hsinying Pride</i> x <i>Phal. Yasuji Takasaki</i>	Ching Her
Dou-dii Golden Princess	<i>Phal. Salu Princess</i> x <i>Phal. Golden Sun</i>	Hausermann
Elegance Supreme	<i>Phal. Alien Nasu</i> x <i>Phal. Honey Clover</i>	Orquideas Eva
Eva's Amador	<i>Phal. Eva's Nevada Puro</i> x <i>Phal. Musashino</i>	Hausermann
Flint Lady	<i>Phal. Donald Rigg</i> x <i>Phal. Golden Vintage</i>	F.J.Bergman
Fred's Violetto	<i>Phal. Poco's Charm</i> x <i>Phal. Fukumura Sharpe</i>	F.J.Bergman(L.Farnsworth)
Fukumura Sharpe	<i>Phal. Alice Sharpe</i> x <i>Phal. Ida Fukumura</i>	Lenette(R.T.Fukumura)
Glad Anna	<i>Phal. Melinda</i> x <i>Phal. schilleriana</i>	Alberts/Merkel
Gloria's Folly	<i>Phal. Norman's Legacy</i> x <i>Phal. Christopher Wilson</i>	Alberts/Merkel
Gulfstream Breeze	<i>Phal. Serene Perfection</i> x <i>Phal. White Flag</i>	P & D.Hunt(O.U)
Helen Alice May	<i>Phal. Pailang's Auckland</i> x <i>Phal. Chih Shang's Stripes</i>	Alberts/Merke
Hokuioa	<i>Phal. Maui Queen</i> x <i>Phal. Polynesian Queen</i>	(R.T.Fukumura)
Hoosier Pink	<i>Phal. Camelot</i> x <i>Phal. Hausermann's Galaxy</i>	Hausermann
Hsinying Branda	<i>Phal. Hsinying Fair</i> x <i>Phal. Hsinying Fadia</i>	Ching Hua
Iph Treasure	<i>Phal. Penang Girl</i> x <i>Phal. Hsu Li-Shian</i>	Ow Siew Hoo
Iph Wonder	<i>Phal. Coral Isles</i> x <i>Phal. Hsu Li-Shian</i>	Ow Siew Hoo
Jessitis	<i>Phal. Lin Jessica</i> x <i>Phal. equestris</i>	John Hutchinson
Jim's Granddaughter	<i>Phal. Little Pink Doris</i> x <i>Phal. Aptos Sunset</i>	J.Whitman
Karl Jeansonme	<i>Phal. Gallant Beau</i> x <i>Phal. Portobelo</i>	M.Mirault
Karl's Choice	<i>Phal. Takakos' Dream</i> x <i>Phal. Nonthoi</i>	K.Wesely
Kona Butterfly	<i>Phal. Dark Star</i> x <i>Phal. Classic Carmela</i>	I.Schmidt
Ostrander(Carmela)	<i>Phal. New-Blood Stripe</i> x <i>Phal. Formosa Stripes</i>	John Hutchinson
New-Formosa Stripe	<i>Phal. Pink Challenge</i> x <i>Phal. Yasuji Takasaki</i>	M.C.Thompson(Carmela)
Pink Trap	<i>Phal. Pinlong Cardinal</i> x <i>Phal. Timothy Christopher</i>	Today Trop.Nurs.
Pinlong Cardiophor	<i>Phal. Rothschildiana</i> x <i>Phal. Timothy Christopher</i>	Today Trop.Nurs.
Pinlong Cheris	<i>Phal. Pinlong Memory</i> x <i>Phal. Timothy Christopher</i>	Today Trop.Nurs.
Pinlong Memoristophor	<i>Phal. Allen Stoops</i> x <i>Phal. George Vasquez</i>	A.Kiehm
Red-Hot Cinnamon Bears	<i>Phal. Florian</i> x <i>Phal. Red Ball Jet</i>	Pem Orchids
Rosina Micha	<i>Phal. Regal Dancer</i> x <i>Phal. Mishima Glow</i>	K.Wesely
Ruth Wesely	<i>Phal. Wicked Witch</i> x <i>Phal. Cassandra</i>	A.Kiehm
Sally Smith	<i>Phal. Golden Sun</i> x <i>Phal. mariae</i>	Ching Her
Salu Black Pearl	<i>Phal. Salu Leopard</i> x <i>Phal. Salu Princess</i>	Ching Her
Salu Golden	<i>Phal. Brother Pixie</i> x <i>Phal. Golden Sun</i>	Ching Her
Salu Red Pearl		



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<b>PHALAENOPSIS (continued)</b>			<b>RODRIGUEZIA</b>		
Salu's Fragrancy	Phal. Hannover Passion x Phal. Golden Sun	Ching Her	Eva's Pecosa	Rdza. granadensis x Rdza. batemanni	Orquideas Eva
Salu's Red Rose	Phal. Lin Jessica x Phal. Golden Sun	Ching Her			
Salu's Red Sun	Phal. Taisuco Rosetzer x Phal. Golden Sun	Ching Her	<b>SARCOCHILUS</b>		
Salu Sun	Phal. Salu Leopard x Phal. Golden Sun	Ching Her	Victoria	Sarco. hartmannii x Sarco. aequalis	D. & L. Brown (O/U)
San Shia Crystal	Phal. violacea x Phal. modesta	Hou Tse Liu			
Sedona's Devil	Phal. Red Devil x Phal. Venimp	Sedona	<b>SOPHROLAELIA</b>		
Shiray Hino	Phal. Shirayukhime x Phal. Musashino	Lenette (O/U)	Bright Rouge	L. Slarry Sky x Soph. wiltingiana	M. Ueno
Small Chili	Phal. Red Jaguar x Phal. Hannover Passion	Ching Her	Wee One	Soph. mantiqueirae x L. bradel	D. Pulley
Stanwell Edward	Phal. Stanwell Gitanjali x Phal. Stanwell Missy	J. Latten			
Stanwell Gitanjali	Phal. Zada Kaala x Phal. Lippegut	J. Latten (O/U)	<b>SOPHROLAELIOCAITLEVA</b>		
Steve Pridgen	Phal. Miami Sunrise x Phal. Greencote Pridgen's Red	Lenette (S. Pridgen)	Carolina Angel	C. Angelwalker x Sl. Gratiariae	Lenette
Sweetie Bear	Phal. Super Slupid x Phal. Princess Violet	First Rays	Elusive Dream	Lc. Mini Purple x Sc. Lana Coryell	D. Neuendorf
Tan Loon Hong	Phal. Eiderstedt x Phal. violacea	Peter Loo	Iso's Gold Drop	Lc. El Cerro x Slc. Kauli Starbright	Ted Green (I. Takemoto)
Tiffany Nicole	Phal. Floyd Mattis x Phal. amabilis	Dragonstone	Jamaica Cherry	Slc. Kauli Starbright x C. Cherry Chip	Claude Hamilton
Yew Beauty	Phal. Black Beauty x Phal. Brother Yew	C. Raven-Riemann (O/U)	Memoria Mason Taylor	Lc. Angel Heart x Sc. Lana Coryell	Taylor Made Orch. (L. Topp)
<b>PHRAGMIPEDIUM</b>			Napalm Cocktail	Slc. Hazel Boyd x Slc. Napalm	D. Neuendorf
Donald Russell	Phrag. Demetria x Phrag. longifolium	E. Barber	Napalm Glow	Slc. Agent Orange x Sc. Lana Coryell	D. Neuendorf
Dragon's Blood	Phrag. Nitidissimum x Phrag. sargentianum	A. Teitzlaff (Kiworth)	Pink Splash	Sl. Red Doll x C. intermedia	D. & M. Crawford
Kivo Kawatsura	Phrag. Memoria Dick Clements x Phrag. boissierianum	T. Kawatsura	Psychebeat	Sl. Psyche x Lc. Drumbeat	M. Ueno
Shizuko Kawatsura	Phrag. ecuadorensis x Phrag. Grande	T. Kawatsura	Queen's Treat	Slc. Damsun Queen x Lc. Trick or Treat	H. Rohlf (O/U)
<b>PLECTOCHILUS</b>			Rustic Gold	Slc. Rosemary O'Conney x Lc. Chit Chat	Don Massey
Harlequin	Sarco. hartmannii x Pchls. Richard Jost	D. Butler	Silent Night	Slc. Hazel Boyd x Slc. Quantum Leap	D. Neuendorf
<b>PLEUROTHALLIS</b>			<b>*SUSANPERREIRAARA (Sprra.)</b>		
Imp's Pal	Pths. imperialis † x Pths. palliolata †	H. P. Jesup	Roosan	Ctra. Keith Roth x Tima. canalculata	R. Pereira
<b>POTIMARA</b>			<b>VANDA</b>		
Anzac Ribbons	Pot. Scarlet Ribbons x Sc. Beaufort	D. Neuendorf	Crownfox Gold	V. Robert Sorenson x V. Fuchs Sunrise	R. F. Orchids
Aussie Born	Bic. Hawaiian Thanksgivng x Sc. Beaufort	D. Neuendorf	Dofia Lourdes Flores	V. Fuchs Fuchsia x V. Fuchs Beauty	R. F. Orchids
Cosmo-Menden	Pot. Congaree x Lc. Ruth Montgomery	Kokusai	Margaret Irene Zewalk	V. Fuchs Delight x V. Charungraks	M. Zewalk (Motes)
Cuban Kiss	Bic. Orglade's Chartreuse x Sc. Beaufort		Mazza Cady	V. Rothschildiana x V. roeblingiana	Russell Job
Eva's Atardecer Caribe	Pot. Chignon Style x Pot. Lemon Buttons	Suwada Orch.	Robsan's Beauty	V. Hilo Queen x V. Gordon Dillon	R. Pereira
Eva's Corona Real	Pot. Naokazu x Bic. Port Royal Sound	Orquideas Eva	Robsan's Pink	V. Hilo Fantasy x V. Rothschildiana	R. Pereira
Eva's Verano	Slc. Orient Amber x B. digbyana	Orquideas Eva	Sirinun	V. Sirilak x V. Kasem's Delight	J. Phanpet
Exotic Sunrise	Slc. Hazel Boyd x Bic. Goldenzeile	Orquideas Eva	Sirlak	V. Faye Bennett x V. Bangyikhan Red	J. Phanpet
Harpe de Valec	Bic. Harlequin x Slc. Lani Bird	Exotic Orchids	Udom Pranern	V. Udom Gold x V. Pranern Prial	K. Vejarut
Melinda Rose Funke	Pot. Afternoon Delight x Pot. Salmon Splendor	Vach & Lec.			
Memoria Mario Lanza	Pot. Carolina Splendor x C. Chocolate Drop	Hausermann	<b>*VIRAPHANDHUARA (Vpda.)</b>		
Memoria Satomi Shimizu	Bic. Pond Sun x Pot. Nalo Princess	Lenette	Little Fancy	Syma. Luke Neo x Chtra. Viraphandhu Delight	R. Viraphandhu
Pyrite	Sc. Beaufort x Pot. Golden Harvest	C. Shimizu (Puanani)			
Quiet Sunset	Lc. Tropical Rainbow x Pot. Vallespin	Ann Jesup	<b>VUYLSTEKEARA</b>		
Taira-Machi Golden Wedding	Slc. Orglade's Early Harvest x Bic. Golden Heritage	Suwada Orch.	Dream Catcher	Odrna. Papageno x Oda. Harry Baldwin	Keith Andrew Lab
Timothy Pappas	Lc. Royal Emperor x Pot. Jane Freund Harris	T. & S. Koriyama	Esprit	Vuyli. Cambria x Oda. Esteemed	Cal-Orchid (Golden Gate)
<b>RENANTHERA</b>		(F. Koriyama)	<b>WILSONARA</b>		
Ng Chong Teng	Ren. bella x Ren. Nancy Chandler	Hausermann	Tayasal	Oncda. Charlesworthii x Odm. hastilabium	H. Rohlf
<b>RODRICIDIDIUM</b>			<b>ZYGOCOLAX</b>		
Big T	Rdcm. Russell Tolen x Onc. Perreira's Choice	Ng Chong Teng	Cosmo-Phillips	Zcx. Judith Phillips x Z. Artur Elie	Kokusai
		R. Pereira	<b>ZYGONERIA</b>	Z. Zephyr x Zga. Dynamo	Adelaide



NAME	PARENTAGE	REGISTERED BY
ZYGOPETALUM		
Blinky	Z. Blue Lake x Z. Inky Dink	Adelaide
Freestyle	Z. <i>crinitum</i> x Z. Helen-Ku	Adelaide
Glenelg	Z. B. G. White x Z. Inky Dink	Adelaide
Milang	Z. River Murray x Z. <i>crinitum</i>	Adelaide
Zinc	Z. Inky Dink x Z. Zephyr	Adelaide

\* New intergeneric name with abbreviation for the following combination. The botanical authority follows each component genus.

*Suspanperreira* (named in honour of Mrs Susan Pereira of Hawaii, USA) = *Broughtonia* R. Brown x *Cattleya* Lindley x *Tetramicra* Lindley

*Vriphandhuara* (named in honour of Mr Rangsan Vriphandhu of Thailand) = *Aërides* Loureiro x *Ascocontrum* Schlechter x *Neofinetia* Hu x *Rhynchostylis* Blume x *Vanda* Jones ex R. Brown

† Natural genus new to registration. The botanical authority follows the generic name.  
*Ornithocephalus* Hooker

‡ Species appearing for the first time as parents in registration:-

*Bulbophyllum carunculatum*; *Dendrobium insignis*; *Epidendrum profusum*; *Epipactis mairei*; *Maxillaria huelschii*; *Maxillaria nigrescens*; *Pleurothallis imperialis*; *Pleurothallis palliolata*; *Ornithocephalus bicornis*; *Ornithocephalus myrticola*

CORRIGENDUM - Orchid Review list of:

July/August 1999, *Dips*. Elmore's Sweetheart: originator should read (W.H.Chen)

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## Cattleyas

Keep plants slightly on the dry side. If plants are in a heated house watch that plants do not dry out too much. If you have a heated house try and keep the house at 10 degrees Celsius minimum during the night. Make sure that the day temperature is higher than the night temperature.

Watch for mealy bugs if you grow cattleyas in a heated house. Mealy bugs thrive in warm, moist conditions. They can lay up to six hundred eggs in one batch. This means be vigilant and when seen eliminate with a cotton bud dipped in metho, or spray with a recognised spray that is registered to control these pests.

Fertilisers are not necessary unless plants are in active growth, i.e. live roots running across the potting mix. If this is so, use a fertiliser that has no ammonia in it and very little urea. Use every three to four weeks.

Give plants plenty of light and good air circulation.

Watch out for snails. A few snail pellets on each pot will keep them away.

## Cymbidiums

Winter has finally arrived. Flowers out in full bloom. Racemes still stretch up. What a wonderful time of the year. Most cymbidium growers are watching their seedlings burst into full bloom hoping they have a champion before them. Now is the time to visit shows to see first flowering seedlings, visit friends' green houses to see their seedlings in bloom and, of course, discuss the ins and outs of the latest seedlings that are flowering at one another's houses. Don't forget to place all of your flowering plants under cover for the duration of the flowering season. Keep plants just moist, not over wet. If possible try and keep flowers as dry as possible. A fan set up in a corner, pointing in the right direction will help to keep your flowers dry. If the humidity becomes too high you may get *botrytis* spotting or *glomerella* blotching. Poor air circulation will increase the chances of flower spotting. Remember chemicals only to try to correct cultural problems!

In the old days *benomyl* products were used to control spotting. These products have been withdrawn from sale and have been de-registered for use on ornamentals. BAVISTIN® has been used successfully but alas, it has now been taken off the market. Most growers now use ROVRAL AQUA FLOW®.

Well what's new? SCALA®? Not registered yet. Have you tried TRI-D25? What is it? It is a mixture of two fungi TRICHODERMA KONINGII and TRICHODERMA HARZIAMUM. These two fungi can help control *botrytis* spp. As well as many root diseases caused by an imbalance of fungi. The only down side is that it only works in glass houses that are kept above 13 degrees Celsius.

Don't forget to keep your racemes nice and straight. Either stake them or use the famous Nie Co Rolls. Watch for aphids on the buds. CONFIDOR® works well. Green vege bugs can be troublesome. They cause spotting on flower segments. (Note: the picture on page 50 of the August/September issue was wrongly labelled *botrytis* spotting. In fact the spotting was caused by the green vegetable bug NEZARA VIRIDULA). This pest can be con-

trolled by dusting the buds with a general purpose vegetable dust.

Keep plants nutrient level up by fertilising weekly with HSO12.

Non flowering plants that are outside in the shade house and if you live in a frost prone area spray plants every 21 to 28 days with ENVY®

## Natives

The chilly nights and wet days of winter do not seem like ideal weather for plant growth, but many cool growing natives which flower in spring have actively developing flower spikes over the coldest winter months. Some wait for the warmer weather of August while others (such as *Dendrobium speciosum* complex) appear in late autumn.

Because of the early and lengthy development time for the flowers there are some threats to a good display. These include the obvious snails and slugs and other munching pests which seem to appear as soon as there is a warm day and, like vandals, cause enough damage to ruin the raceme while leaving a few flowers to show what might have been! Other dangers include too much rain and handling the plants as the spikes are very brittle and will snap off at the gentlest of touches.

Nice warm, sunny winter days are a great time to get out and do a bit of cleaning up and checking. Remove any dead leaves and dried stems from old flowers now before the new ones get too big. Sometimes the developing flowers get tangled in growths and leaves. Untangle them very gently before they get too big and permanently deformed. It is particularly important to keep a check on progress if you intend to show your plants this spring as they must be in the best possible condition to have a chance of winning any prizes.

Watering over winter can be a major concern to growers. As the plants are still active they need some water or they will use the reserves in the pseudobulbs and the plant will become withered. At the same time a wet plant on a cold, frosty night might be damaged. The best option is to water as early in the day as possible so there is a chance for excess water to drain from the media. What do you do if frost settles on your native orchids? Water them to melt the ice if you can get to them before the sun does. If not, then there is going to be burn marks on the leaves. Small patches might be unsightly but the leaf will still do its job. Watch for any slushy growths or leaves that suggest fungal or bacterial infection has occurred and remove all infected plant tissue immediately.

Some growers continue to feed their plants over winter. Growth is slow and often restricted to just the flowers so the plant is only going to need a very small amount of fertiliser. It is easier to stop feeding altogether for the coldest months but start as soon as there is warm weather. This will also help reduce salt build up from unused fertiliser. Mounted plants such as the Sarcanthinae have only the smallest of reserves. If there is active growth some very dilute fertiliser is OK.

In the hot house, keep a check that the heater is working properly and there are no holes to let in cold draughts. Watering is best done by hand to meet the requirements of each plant. Tropical

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plants have wet and dry seasons so cutting back on water is what they expect. It also helps prevent damage from the cold. Keep up moisture around the plants and don't let the media become totally dehydrated or you will have trouble rewetting it. Dry media plants provide perfect conditions for mealy bugs and spider mites along with ants, slaters and slug nests.

There are many wonderful terrestrial orchids in bloom over winter. While many will find their way onto show benches or to meetings, there are many more to be seen in the bush. Warm winter days are a great time to go for a walk.

In many areas along the coast there are often very warm days in late winter. These can trigger the rapid bug swelling of spring. A cold snap can then cause damage. If buds start to swell there is little you can do other than find a cold shady place for the plant. Enjoy the odd early flower by taking the plant indoors.

## *Paphiopedilum*

*Paphiopedilum* hybrids are well into their flowering season. Most of the whites and early greens will be in flower, together with some of the coloured varieties. Many of the modern hybrids, particularly those with spotted flowers, will not flower until spring. Flower quality depends upon several factors; this under your control at this time of year are watering, feeding, staking and light.

During winter *paphiopedilums* do not require frequent watering. Whilst the actual frequency will depend upon the weather, the type of housing and the state of the potting mixture, you must resist the temptation to pick up those hose unless the plants are moderately dry. When you do water, water early on a sunny day and water thoroughly. After every third or fourth watering allow the plants to drain for half an hour or so and then water with weak Aquasol (about half strength).

Staking is important if you want to avoid asymmetrical flowers. Try to encourage the stems to grow upright from the start. You will be able to support the growing stem with a loose tie a couple of inches or so below the bud. When the stem is fully grown and the bud about to open, lean the pot forward about fifteen degrees or so and keep it in this position until the flower has been open about a week; this will cause the flowers to "look up" a little.

Adequate light is very important for quality flowers. If at all possible, the amount of shading should be reduced considerably from mid-May until early September. This will result in larger, brighter flowers and longer – yes, longer – stronger stems; the plants will also benefit by continuing their growth cycle, albeit at a slower rate, through the winter months.

Although potting is best left until spring, any plant which is not doing well should be repotted into fresh mixture as soon as it is noticed, no matter what the season. If the roots have rotted away, dip the "bare rooted" plant in Fongarid and stake it firmly.

As a general rule the green-leaved hybrids can be grown quite well in cold conditions provided they are protected from heavy frost. Those with heated glasshouses do not need more than about six degrees centigrade, although young seedlings will benefit from

somewhat warmer conditions. *Maudiae* types are really warm flowers and require about fifteen degrees to do well.

## *Phalaenopsis*

**Watering:** – Water only in early mornings every three or four days depending on the weather. If possible, water mainly in pots and not the foliage. Do not allow water to remain in the crown overnight as this can cause rot. Avoid watering at all on cold or bleak days.

**Light:** – Still require more shade than other genera; can be reduced to 70% during winter.

**Fertiliser:** – Reduce to once per fortnight, alternating between –

(1) Inorganic low nitrogen – Campbells A, Aqua K or Phostrogen.

(2) Wuxall Nitrosol or Fish Emulsion.

**Pest Control:** – Spray with fungicide every 6 weeks. e.g. Daconil, Ridomil MZ WP or Mancozeb with Kocide.

Use Diazanone, Malathion or Pyrethrum to control scale and insects.

Keep a close watch for mites and treat with a miticide as required.

Wettable Sulphur may also be used as it is both a fungicide and a miticide.

## *Vandaceae*

**Watering:** – Cut back on watering during cooler months. Depending on local conditions, a good watering every three days should be sufficient. Water only in mornings. Avoid watering at all on cold or bleak days.

**Light:** – Strap leaf vandas and ascendas require 50% shade. If you wish to move narrow leaved vandaceous plants (i.e. terete and semi-terete vandas, Mokaras, Arandas, etc.) from a shade house to full sunlight, then now is a good time to move them.

**Fertiliser:** – Reduce fertilising to once per fortnight alternating between –

(1) Inorganic low nitrogen – Campbells A, Flowfeed HP8, Aqua K or Phostrogen.

(2) Wuxall, Nitrosol or Fish Emulsion.

**Pest Control:** – Spray with a fungicide every 6 weeks e.g. Daconil, Ridomil MZ WP, Mancozeb or Wetttable Sulphur.

If insects or scale are a problem spray with Diazanone, Malathion or Pyrethrum.

Watch for mite damage (i.e. Red Spider, false spider, etc.) and treat with a miticide such as Kelthane or Tedion.

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# Cymbidiums

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### Editor's Report

First of all, a sincere thank you to Dean Roesler from Noe and myself. Not only for the warm welcome he gave us in last issue's editorial, but also for his help, encouragement and enthusiasm. While we still have a lot to learn, it would be hard to find a person more committed to the promotion of cymbidiums, or a person with more experience to learn from, than Dean Roesler. We are all very excited about the future and feel confident that, as a team, we can maintain the high standards Dean has set and take Cymbidiums Australia forward as the voice of Australia's Cymbidium enthusiasts.

Not only is it an exciting time for us, embarking on a new journey with Cymbidiums Australia, it is surely an exciting time to be involved with cymbidiums at any level. We in Australia have a strong, active and expanding group of state-based Cymbidium bodies and a progressive national body, all currently tackling a number of major and innovative issues, which can only bode well for the future of cymbidiums in Australia. The work being done on the formulation of national judging and award standards, and a national show schedule, are moves which will not only define what we as Australian Cymbidium growers look for in a "good orchid", but also has the potential to deliver an award system of worldwide standing based on the knowledge of specialist Cymbidium enthusiasts, growers, judges and hybridisers. It will also provide an agreed schedule for our national show (whichever state hosts the event) from year to year.

It is an exciting time to be involved in cymbidiums due to the vibrant state of

Cymbidium hybridising in Australia. Dramatic improvements are taking place across a diverse range of Cymbidium types, with Australian hybrids being the equal of any produced in many overseas areas, and are clearly leaders in their fields in others. We should feel justly proud that our premier nurseries and hybridisers supply markets in Europe, the USA and New Zealand (among others) and that our locally bred orchids frequently win shows and gain awards overseas.

Among this issue's articles Greg Bryant touches on the quality of Australian hybridising while outlining the significant impact of the Cym. Winter Fair heritage. I doubt there is a Cymbidium collection in Australia which does not have an example of this benchmark orchid's offspring included in it, whether the owner is aware of it or not. Noe Smith gives us a look at the Sunderland family's nursery, Kimberley Orchids, describing a visit to the nursery and an enjoyable and informative afternoon spent chatting to Peter, Joyce and Jennifer. Bill Johnson provides us with another interesting Cymbidium profile, featuring Cym. Trigo Royale in this issue and there are some more eye-catching orchids from the 1999 season from Dean Roesler.

National President, David Allen, provides us with all of the necessary information for anyone planning on attending this year's National Cymbidium Orchid Festival which returns to the City of Ararat for the first show of the new millennium. David also reveals some exciting news for exhibitors which also confirms the status of the National Cymbidium Orchid Show as one of the nation's premier orchid events.

**Rob Smith**  
Editor

### Editorial Panel



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# Cym. Winter Fair Heritage: Simply the best?

by Greg Bryant

**T**here is a strong tendency for people to unquestioningly accept anything that appears in print as being true. Over recent times I have noticed comments that refer to the faults of *Cym. Winter Fair* based lines. It is important to realise that there is no line of breeding that is completely free of faults and beyond some criticism. Evaluation of breeding lines should involve the weighing up of the positive

developments against any negative faults. Good breeding lines obviously have more positives than negatives. Keeping this in mind the *Cym. Winter Fair* based lines of breeding have been producing some outstanding results for early to mid-season commercial and exhibition varieties. So why the unwarranted criticism? Perhaps the answer lies in the premise that anyone can be a critic but not everyone can be fair.

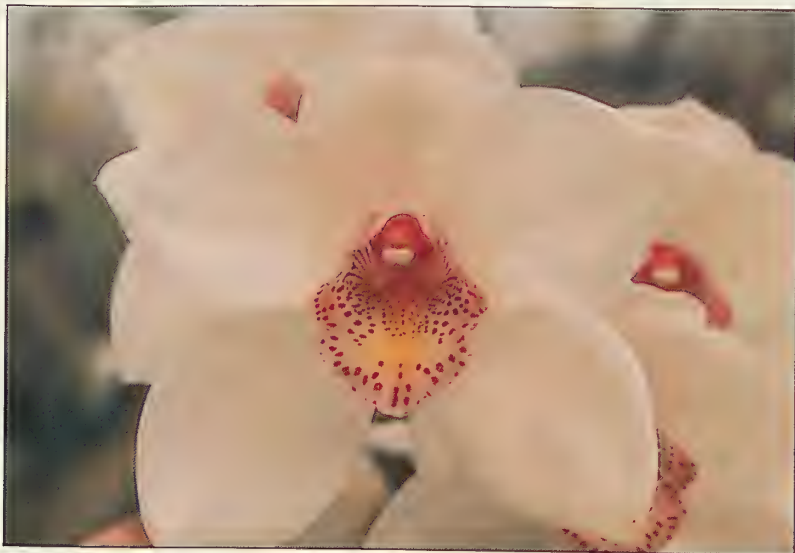
The majority of the criticism has come from a relatively small group of people and can be attributed to ignorance, jealousy and individual preferences. In perspective, a flower grower may say that an exhibition variety lacks productivity while the show-bench grower may say that a cut flower variety lacks shape, yet both varieties are successful and good. The aim of this article is to present the achievements and developments from *Cym. Winter Fair* based hybridising. Hopefully each reader will then be able to make an informed judgement on the value of the *Cym. Winter Fair*'s heritage.

Perhaps the most widely grown early white *Cymbidium* for cut flowers in the world until recently was *Cym. Baltic Snow* 'Molly'. The *Cym. Baltic Snow* cross (*Winter Fair* x *Trigo Royale*) was made in the USA by Joe Rudvalis and was registered in 1977. The Rudvalis's recognised the good points of the *Cym. Winter Fair*s and made and registered at least 13 crosses using a *Cym. Winter Fair* parent. A number of these *Cym. Winter Fair* hybrids have been used commercially as cut flower varieties. In fact there has been an extraordinary number of crosses made around the world using various *Cym. Winter Fair*s as parents since the 1970's. Mainly good results have been seen although there have been some disappointments. Some *Cym. Winter Fair*s were good parents and some were not.

The main part of this story will focus on the use of *Cym. Winter Fair* 'Crystal' by Alvin Bryant and some of the lines that have been developed from this revolutionary parent. The *Cym. Winter Fair* cross was made and registered (in 1971) by Stewarts in the USA using *Cym. Fred Stewart* and *Cym. Stanley Fouraker*. This meant that *Cym. Winter Fair*s were heavily derived from *Cym. Early Bird* (early genes - from *Cym. erythrostylum*) and *Cym. Alexanderi* (mid-season genes from *Cym. Eburneo-lowianum* and *Cym. insigne*). A number of unflowered *Cym. Winter Fair* seedlings were imported into Australia and from these Alvin was fortunate enough to flower 'Crystal'.

What properties (in the context of the 1970's remember) made *Cym. Winter Fair* 'Crystal' such an important parent?

1) The crystal-white colour and lack of sun-staining.



*Cym. Winter Fair* 'Crystal'



*Cym. Peak Progress* 'Shell'



- 2) The multi-spiking bulbs which could produce up to three spikes per season and sometimes one to two spikes the next season.
- 3) It was a tetraploid (4n) and carried up to 28 flowers on upright stems.
- 4) It was a fairly good grower with reasonable growth habit.
- 5) Its early flowering time.
- 6) The resistance to spotting (cell break) that many tetraploid *Cym. Alexanderi* white hybrids were prone to.
- 7) It lasted well as a cut flower. There have been claims that *Cym. erythrostylum* hybrids don't last well as cut flowers. Through careful selective hybridising many *Cym.* Early Bird hybrids (eg. *Cym. Winter Fair*, *Cym. Sylvania*) last well even in the poor light conditions of winter and the early part of the season. Care needs to be taken with the *Cym. Windsor* line (eg. *Cym. Rincon*, *Cym. Solana Beach*) however because a percentage of these hybrids can have trouble with the stem sealing after harvesting and show an inability to take up water.
- 8) A certain degree of heat tolerance which is important for very early varieties.

What were the bad points of *Cym. Winter Fair* 'Crystal'? These were relatively insignificant but needed to be considered when hybridising in the search for improvement.

- 1) The flowers were not large and tended to be a bit bunched.
- 2) The labellum wasn't big or very attractive.
- 3) The spike was only average in length.
- 4) The flower shape was good but not award standard and a bit cuppy.

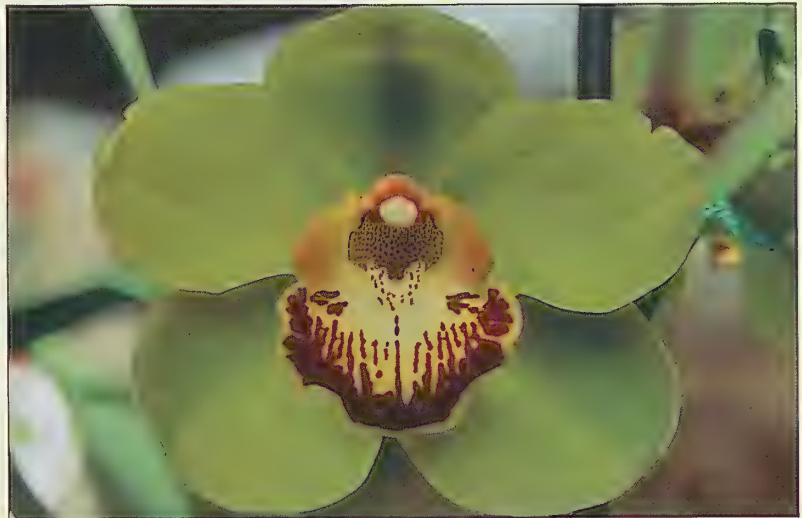
So it is obvious that *Cym. Winter Fair* 'Crystal' had a lot to offer in the development of tetraploid cymbidiums and Alvin used it as one of the mainstays in his hybridising program for obtaining early, multi-spiking tetraploids. During the 1970's 'Crystal' was used to give the following crosses:

- Cym. Winter Wonder* (x Fanfare)
- Cym. Poetic Fair* (x Poetic)
- Cym. Winter Paradise* (x Valley Paradise)
- Cym. Gardalvin* (x Palaker)
- Cym. Serenity* (x Doreen Darwen)
- Cym. Musely* (x Sylvania)
- Cym. Fair Wall* (x Wallara)

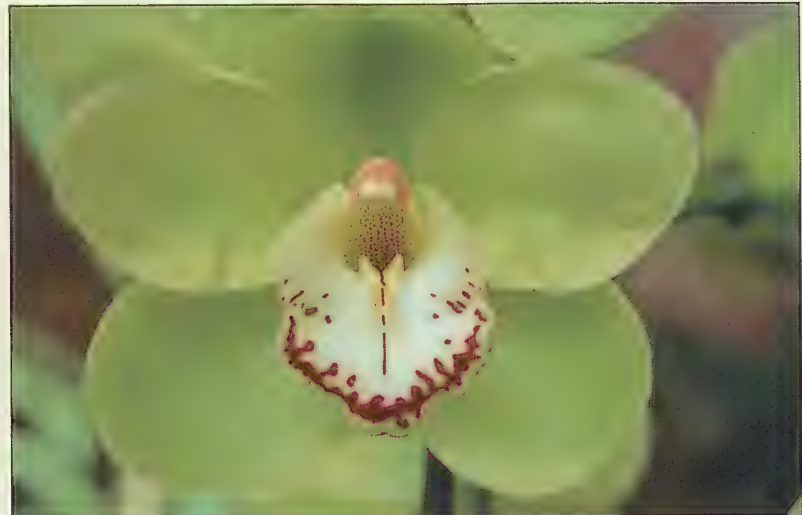
Other crosses were also made but these are the ones that gave the best results. The vast majority of our nursery's early white cut flower stocks have been made up of *Cym. Winter Paradises* with some *Cym. Winter Wonders* and we are currently upgrading these with the next generations of *Cym. Winter Fair* line bred varieties.



*Cym. (Coraki Gold x Coraki Advent) 'Elvis'*



*Cym. Green Spectacle 'Shah'*

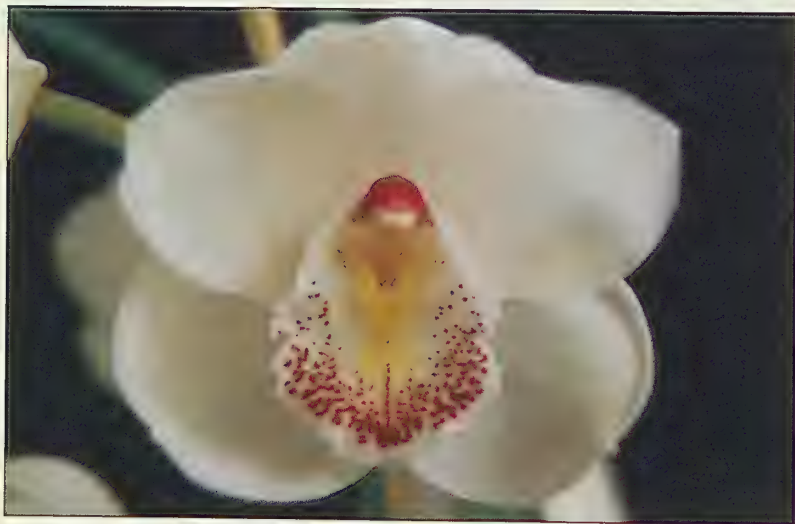


*Cym. Miretta Wonder 'Limpid'*





*Cym.* (Poetic Winter x Green Ramp) 'Maxine'



*Cym.* Pristine Spring 'Mecca' (Winter Alvin x Blush of Spring)



*Cym.* Lovely Snow 'Mumma'

The next generation of *Cym.* Winter Fair line breeding gave crosses such as:

*Cym.* Winter Alvin

(Winter Wonder x Gardalvin)

*Cym.* Lovely Angel

(Winter Paradise x Gardalvin)

*Cym.* Paradise Wonder

(Winter Wonder x Winter Paradise)

*Cym.* Poetic Winter

(Poetic Fair x Winter Wonder)

and outcrosses such as:

*Cym.* Wonder Arc

(Winter Wonder x Joan of Arc)

*Cym.* Stargard

(Gardalvin x Lone Star)

*Cym.* Winter Hunt

(Winter Wonder x Rampur)

*Cym.* Blush of Spring

(Winter Wonder x Masao Toya)

*Cym.* Miretta Wonder

(Winter Wonder x Miretta)

and many others.

It is interesting to note that the growth rate of most of these crosses was, on average, quite acceptable. However, using the comparatively undeveloped and heavily *Cym.* Alexanderi based *Cym.* Joan of Arc and *Cym.* Masao Toya for example there tended to be greater polarisation with some very good growers and some very poor growers. Our experience is that over infusion of *Cym.* Alexanderi genes is more likely to result in poor growth than a heavy infusion of *Cym.* Early Bird genes. Interestingly enough it has been *Cym.* Early Bird that is largely responsible for compact growth habits. In comparison to other colours we grow a lot of white seedlings and we have found most to grow quite well and to be no slower than any other colour. This may explode a few myths that you have heard. In fact we have pinks (eg: *Cym.* Peak Progress), yellows (eg: *Cym.* Coraki Advent, *Cym.* Coraki Gold) and greens (eg: *Cym.* Green Spectacle) that have *Cym.* Winter Fair heritage and grow as well as the whites.

At the National Cymbidium Orchid Show in Adelaide in 1999 we saw that the Grand Champion and Reserve Champion (owned by Tom Burian) were both second generation *Cym.* Winter Fair progeny. This indicates that *Cym.* Winter Fair based lines are capable of giving good showbench as well as commercial results and that these good results are just not confined to one or two nurseries. It also points to the strengths of the Australian Cymbidium scene and the high quality of hybridising that is and has taken place in this country. **While there are good cymbidiums in all countries, the quality of the cymbidiums in Australia is second to none. Don't pay too much heed to anyone who tells you otherwise.**

At this stage it is time to take a closer look at examples of *Cym.* Winter Fair



based breeding lines so that we can get a chance to verify the validity or otherwise of my claims. To do this I have chosen two lines, firstly the *Cym. Lovely Angel* line and secondly the *Cym. Stargard* line. This should help everyone to appreciate the *Cym. Gardalvin* legacy in particular.

#### *Cym. Lovely Angels*

Seldom has there been a more appropriate name for a cross than *Cym. Lovely Angel*. Alvin Bryant first made the cross in 1983 using *Cym. Gardalvin* 'Angel' and *Cym. Winter Paradise* 'Perfection'. It was registered in 1991 by Mukoyama Orchids. In 1984 Alvin remade the cross using *Cym. Gardalvin* 'Pastel' and *Cym. Winter Paradise* 'Diana'. The results of these crosses were both good but as different as chalk and cheese.

Using 'Angel' (which carried 28 or more bunchy blooms per spike) and 'Perfection' (which had "perfect" shape flowers and extremely compact foliage) the best progeny were early non-staining crystal whites with almost concolour or pink edged labellums. Plant size was very compact and bulbs would multiple spike. The best one we flowered was 'Serenade' but 'Arctic' and 'Snowspot' were very good also. All have exceptionally good colour and labellums and multiple spike off compact size plants. 'Arctic' isn't a fast grower and doesn't carry more than a dozen flowers but has a flat, good shaped concolour early white flower. 'Snowspot' is a good grower and carries up to 26 blooms per stem, its shape being average. 'Serenade' has exceptionally good shape, carries up to 18 bunchy flowers per stem and grows reasonably well for a compact standard *Cymbidium*. None of these *Cym. Lovely Angels* have big flowers. When used in breeding 'Serenade' has given some excellent results and 'Snowspot' has also given some useful progeny.

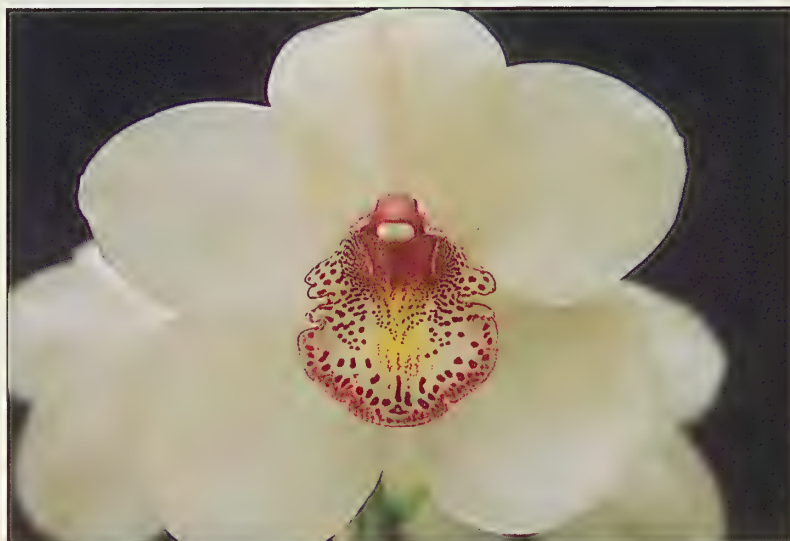
The *Cym. Lovely Snow* cross was made in 1992 using 'Serenade' with the ultra-early *Cym. Paradise Wonder* 'White Dawn' and has helped revolutionise ultra-early and early white cymbidiums. *Cym. Lovely Snow* 'Mumma' is a vigorous growing late April flowering white and has straight upright spikes with about 12 blooms per stem. Each bulb can multi-spike with two to three spikes per bulb and growth habit is moderately compact. Last year on its third flowering 'Mumma' had a total of 16 spikes in a 200mm pot. There is nothing that can compare favourably to it at the time it flowers. *Cym. Lovely Snow* 'Idol' is a May flowering white with a thin pink edge on its almost concolour labellum. It has fantastic shape, compact foliage and is a show-bench special. Neither of these *Cym. Lovely Snows* is ideally suited for cut



*Cym. Lovely Snow* 'Idol'



*Cym. Lovely Angel* 'Zeus'



*Cym. Lovely Angel* 'Bubbles' AM/AOC



flower use but both would excel as pot plants or for exhibition.

The *Cym. Lovely Angels* that resulted from *Cym. Gardalvin* 'Pastel' and *Cym. Winter Paradise* 'Diana' shared some characteristics with those from 'Angel' and 'Perfection' but were, on the whole, like a different cross altogether. This proves how important the use of individual parents can be. Among the best *Cym. Lovely Angels* from 'Pastel' and 'Diana' are *Cym. Lovely Angel* 'Zeus', 'Topcat', 'Ballerina' and 'Bubbles' AM/AOC.

The good labellums on the *Cym. Lovely Angels* are mainly derived from the *Cym. Palaker* 'Grande' side of the *Cym.*

*Gardalvin* ancestry. *Cym. Lovely Angel* 'Zeus' has a big, attractive labellum that is reminiscent of its *Cym. Palaker* grandparent. 'Zeus' is a large, full shape, flat, good substance flower that has compact growth and bulbs that will multiple spike. The spike is not tall but will carry up to 15 blooms in early June. It is suited to show-bench or pot plant use. *Cym. Lovely Angel* 'Topcat' on the other hand is very productive and proving successful as an early cut flower variety in the Netherlands. It will carry up to 20 or so blooms on good length stems from compact, multi-spiking bulbs. Shape and size are quite acceptable.

The whitest of the 'Pastel' and 'Diana'

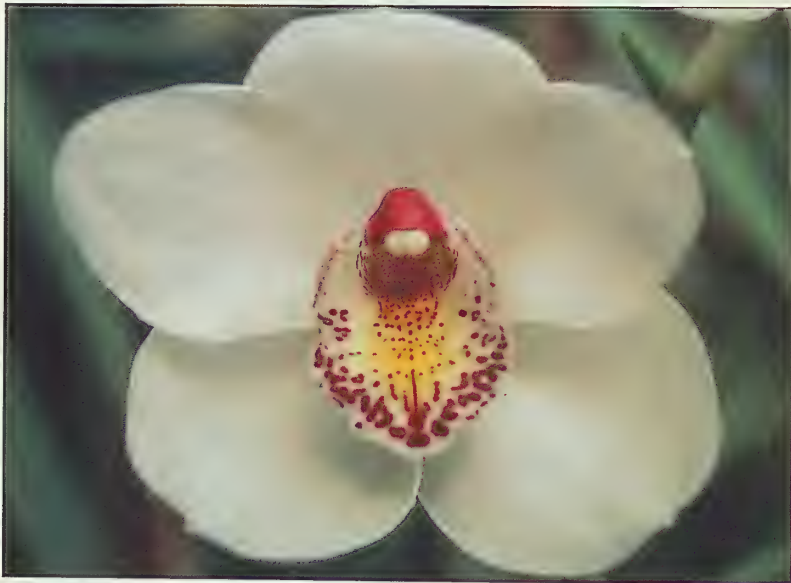
*Cym. Lovely Angels* is 'Ballerina' and we are using it as an early cut flower variety. It also is extremely productive with bulbs producing up to three or four spikes over one or two seasons and will carry up to 21 beautiful blooms on good stems. It is a good grower with fairly compact growth habit. Shape is good and the labellum has only a few dark markings on the edge. When it comes to exhibition varieties *Cym. Lovely Angel* 'Bubbles' AM/AOC is the perfect shape for the showbench. The plant grows well and the bulbs will multi-spike with up to 18 or so blooms per tall stem. The segments are very round and wide and give circular shape, the flower does take time to open fully. Few (if any) cymbidiums have better shape than 'Bubbles'.

Of these *Cym. Lovely Angels*, 'Zeus' and 'Bubbles' in particular are shaping up as good parents. The use of 'Zeus' with *Cym. Paradise Wonder* 'White Dawn' has given fine ultra early white progeny like *Cym. Lovely Snow* 'Alkema' which flowered in just less than 24 months from the flask on its second bulb. The plant was quite small and had a shortish spike with five large, shapely, none-staining white blooms in late April. Subsequent growth has been good with multi-spiking bulbs. The pot plant potential for this line of breeding is very high. 'Bubbles' has been giving fantastic results for shape when crossed with parents like *Cym. Lovely Angel* 'Serenade', *Cym. Stargard* 'Sunset' and *Cym. Joans Charisma* 'Vanity'. In particular *Cym. (Lovely Angel* 'Bubbles' x *Joans Charisma* 'Vanity') 'Sphere' shows great promise. 'Sphere' flowered from its first bulb and the second bulb will also flower. It has exceptional shape, colour and substance.

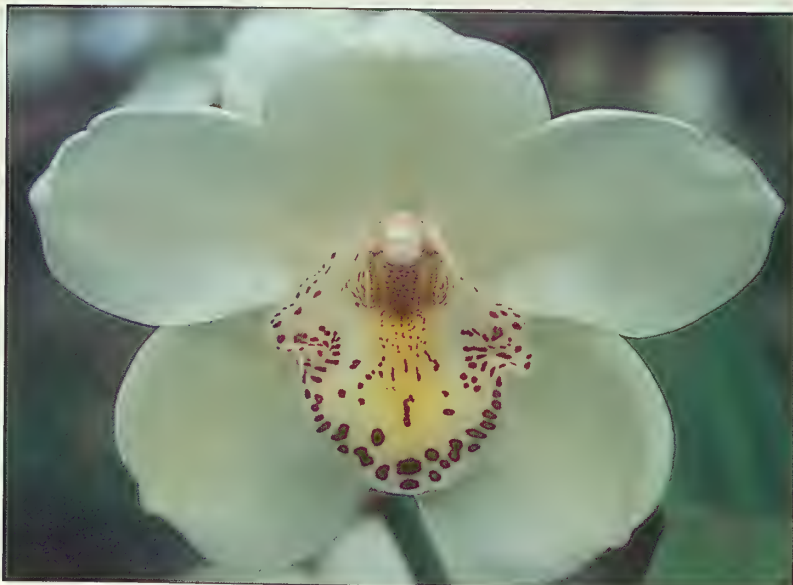
The *Cym. Lovely Angel* cross is an example of the success that can come from *Cym. Winter Fair* line breeding. What should surprise any potential critics is that *Cym. insigne* (34.28%) and *Cym. Eburneo-lowianum* (22.37%) make greater genetic contributions than *Cym. erythrostylum* (20.31%) to the *Cym. Lovely Angels*. A further surprise could be that *Cym. Alexanderi* (43.17%) contributes more than *Cym. Early Bird* (37.5%). It is vital to not forget that we are talking about complex hybrids that have four sets of chromosomes and are genetically sophisticated.

The pictures that accompany this review of the *Cym. Lovely Angels* give an insight into their value. In the next article we will take a look at developments using the *Cym. Stargards*.

**Greg Bryant**  
22 Cook Street  
Kurnell, NSW 2231



*Cym. (Lovely Angel x Joans Charisma) 'Sphere'*



*Cym. Lovely Snow 'Alkema'*



# Australian Cymbidium Orchid Festival

# 2000 National Cymbidium Orchid Show

Sponsored by the Rural City of Ararat  
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Presented by the Australian Cymbidium Society  
Hosted by the Cymbidium Orchid Society of Victoria

## 9th & 10th September 2000

In the year 2000 the National Cymbidium Orchid Show will return to its place of origin, with the Rural City of Ararat once again being the venue for this event, which has been incorporated into the annual Australian Cymbidium Festival and will be hosted by the Cymbidium Orchid Society of Victoria.

The Rural City of Ararat was the sponsor of the inaugural National Cymbidium Orchid Show held in 1996, which proved to be an outstanding success with over 50 exhibitors and 25 display stands filling the Ararat Town Hall with in excess of 1,500 cymbidiums, followed by the second national show (held in 1997) where 81 exhibitors and 26 display stands again filled the Town Hall. In 1998 and 1999 the festival concept offered enthusiasts and the general public floral extravaganzas beyond imagination with *Cymbidium* orchid displays from Victoria, South Australia, New South Wales and Western Australia featuring in both of these shows.

The 2000 National Cymbidium Orchid Show is a joint venture between the Rural City of Ararat, the Cymbidium Orchid Society of Victoria, the Australian Cymbidium Society, Van Schaik's-Bio Gro and Scott's Australia with local artists and other local craft people helping to create a festival atmosphere.

This year's Show Schedule includes 14 Champion classes, 14 display prizes plus cash bonuses, and 100 individual classes. This is the largest Show Schedule offered for a single genus anywhere in the world. As well as the Show Schedule prize money, all display stands that meet the Show Committee's requirements will receive a cash bonus.

The Saturday night Dinner/Dance has also moved back to the popular venue of the Chalambar Golf Club. The club house was built in 1989, has Tabaret Pokies with bar facilities, and is licensed until 1.00am. The club has a large dance floor and a live band will feature on the night. The cost is

\$30.00 per head. Dennis Scheele will be taking dinner bookings and he can be contacted on (03) 9758 4092. We would like

you to make your bookings and payments as soon as possible.

Ararat, known as The Orchid City, has a



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AOR 151

fine collection of cymbidiums. In 1979, a glass house was donated to the Rural City of Ararat to commemorate 50 years of Rotary and, since then, the city's collection of cymbidiums has grown to over 350 named varieties, with flower sizes ranging from large to miniature. This collection can be found in the magnificent Alexandra Gardens in Vincent Street. This beautiful garden, a popular stopping point for a picnic lunch or a coffee break, was designed by Baron Von Mueller and contains bird life, a walk-in fernery, a large lake and the orchid glass house.

This festival will be held in the Arts Activity Centre at the Ararat Town Hall on the weekend of the 9th & 10th of September 2000. The Town Hall, built in 1898, was acclaimed the best renovated building in 1980. Ararat is the gateway to the Grampians National Park and is also a well-known wine region. Combined with the Australian Cymbidium Orchid Festival and the other local attractions of the area, this would make an outstanding destination for a weekend break.

Please telephone David Allen on (03) 9789 1501 for registrations forms, show schedules and any other information required.

David Allen  
COSV Editor



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# Eye-catching Orchids at Ararat

Text by Dean Roesler – Photography by Michael Matthews

Ararat 1999 gave me my first look at *Cym.* Latrobe 'Pink Orb', a standard which has received rave reports. I must say I was very impressed. Although this plant owned by John Kenter was well past its best it still had a stamp of class written all over it. From the crossing of *Cym.* (Nostradamus x Operetta), it has *Cym.* Rincon on both sides of its breeding, which would account for the occasional colour-break.

Who says you must have a bold labellum to catch the eye? *Cym.* Trinity Gold 'Tequila Sunrise' (Trinity Hall x Coraki) from Kimberley Orchids had a delicate labellum which stood out for that very reason, pale yellow merging towards white around the keel area together with a soft pink to apricot fusion on the distal end highlighted by a single dark red tick. The segments, column and labellum, were all the same colour on this attractive yellow standard.

*Cym.* (Matipo x Lady Spring) 'Tee Pee' exhibited by Terry Poulton was an out-standing dark red standard. Creamy-white edging highlighted the very dark red segments. The white labellum displayed a



*Cym.* Latrobe 'Pink Orb'



*Cym.* Trinity Gold 'Tequila Sunrise'



*Cym.* (Matipo x Lady Spring) 'Tee Pee'





*Cym.* (Sleeping Nymph x So Bold)



*Cym.* (Pure Zumma x Green Glass)

showy dark burgundy bar with white edging on the distal end. While the dark red column was highlighted by a white pollen cap.

An unusual spotted standard owned by John and Barbara Welsh caught my eye, it was *Cym.* (Sleeping Nymph x So Bold). The segments were a light mustard-yellow base colour, covered with reddish-brown spots and brushing. The labellum was yellow with large and very bold dark red blotches, influenced no doubt by its *Cym.* *Claudona* ancestry. This shows what can happen when a coloured *Cymbidium* is crossed onto a pure colour *Cymbidium*.

*Cym.* (Zumma Spring x Green Glass) in the Kimberley Orchids display was another standard with a difference. It demonstrates again what can be achieved when crossing conventional colours onto pure colours. It was the blending of soft pastel colours which caught my eye - nice mid-green segments, complimented by a white labellum with just a faint edging of pale apricot/peach.

Fred Weir displayed a very nice seedling from the crossing of *Cym.* (Bingo x Hazel Tyers), a quite large intermediate. The 12 flowers were a soft pink, with a white labellum showing off a bright lipstick-red bar and bright yellow keels. I'm sure Fred is looking forward to flowering some more from this cross.

Dean Roesler  
Lot 14 Lawson Road  
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*Cym.* (Bingo x Hazel Tyers)



# Tom Burian Receives Awards

Text by Dean Roesler –  
Photography by John Seidel

At the February meeting of the Cymbidium Club of South Australia, Tom Burian was presented with Award Certificates from the South Australian Registrar of Judges, Roger Rankin. Two of Tom's cymbidiums received AOC Awards at the 1999 National Cymbidium Orchid Show held in Adelaide. An Highly Commended Certificate was granted to *Cym. Strath Wonder* 'Cream Puff' HCC/AOC. Whilst the Grand Champion of the show, *Cym. White Valley* 'Becky' AM/OSCOV, AOC received an Award of Merit. 'Becky' then went on to be selected as the South Australian Orchid Hybrid of The Year by the South Australian Regional Judging Panel. Congratulations Tom. ■



Tom Burian left, receives Award Certificates from Roger Rankin the South Australian Registrar of Judges

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*Cym. Tangerine Mary*  
'Hot Stuff'



*Cym. Valley Zenith*  
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*Cym. White Valley* 'Becky' AM/OSCOV, AOC



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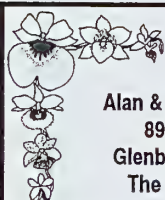
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## CYMBIDIUMS AUSTRALIA

### February's Meeting

We had a good turn up of members for the first meeting of the year and, thankfully, it wasn't an excessively hot night for a change. Dean and Mary Roesler were over from South Australia as Dean was our guest speaker for the evening and they brought a number of community pots for sale with them. They must have arrived at the meeting early because by the time we arrived there weren't many compots left to buy and most members had already stashed their newly acquired purchases safely in their cars. Andy had his work cut out for him in calling the members to order as they were all intent on catching up with the news and gossip after a 2-month break.

David Allen and Terry Poulton were on first talking about pH levels of water when you add fertilisers. This came about when David decided to check the pH level of his fertilising solution over the holidays and took a sample to Terry who had a meter that read both pH and Electrical Conductivity. Following testing, they were quite shocked at how low the pH level reading was. Terry then took a number of meter readings for other growers and David borrowed Andy Leamon's gadgets for testing pH and EC and spent the next month checking sample bottles filled with different strengths of fertilisers. Finally he got a reading he was satisfied



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Cym. Mini Verde. Photo by Sean Moore.



# Cymbidium Orchid Society of Victoria

## February and March 2000 Meetings Report

Text by Carolin Allen - Photography by Sean Moore

with that gave a good pH level and a satisfactory EC level using his preferred fertiliser.

Dean's presentation was about his friendship with Dr Miles Seton who lived at Bermagui in New South Wales and, as the slides showed, this is a very beautiful part of Australia's coastline. (I made a diary note to visit this magnificent part of the country at some future time). He then went on to show us the large number of *Cymbidium* hybrids that Dr Seton had produced and registered using *Cym. suave* as one parent in his breeding program, some of which Dean has since been given when the collection was broken up and dispersed after Dr Seton passed away. Dean is attempting to breed with some of these plants to keep the "vision" going.

We did have four cymbidiums benched at the meeting, but I must say our very early *Cymbidium* hybrids need a lot of work by our hybridisers. We gave Sean, the club photographer, the night off as there is never much on the show bench in February. The COSV would like to thank Sean for coming along to the meetings during the year with his ever trusty back pack filled with all his camera gear. The photographs he produces for our club are of an extremely high quality.

### March's Meeting

While we were still experiencing very hot weather in Victoria during March we seem to always have a very good turn up at the meetings early in the year and it is good to see the members supporting the club, in spite of the heat. Ern Kettle and Julian Coker started the evening off with a discussion about early flowering cymbidiums (specifically *Cym. Golden Elf* hybrids) and whether we, as people who show cymbidiums, want the early flowering plants in our collections at this point in time of breeding development or whether to just leave them to the commercial growers for the moment? As is usual, this type of discussion always gets bounced around the room, with members getting involved, and the general consensus was to leave the early flowering hybrids to the commercial growers, for now, until the shape of the flowers has improved.

Bill Johnson then took the stage (Bill is the proprietor of Glenwood Orchids) with the topic "Sex and Orchids" (in other



*Cym. (Summer Pearl x Via Lunagrad)*. Photo by Sean Moore.

words, hybridising) and presented a large collection of slides pointing out the pros and cons of using different parent plants, some of which are good breeders and others that aren't. Some of us wonder why some crosses were made at all, but there is always the exception which produces something that is very good ... then don't we all have this plant on our wish list? So the moral to this story, for the advancement of cymbidiums, is to grow some

seedlings. It's a gamble but, as we all know, you may end up that very good one (and as my daughter says to us when we say "One day" to her, "That day never seems to come."), but we still try.

There were a few plants on the show bench, although at this time of year there are always more judges than plants at these early meetings. Talking of judges, we would like to welcome Noe and Rob Smith onto the Cymbidium Orchid Society of Victoria's judging panel. The Judges Vote for the night and Best in the Open Section went to *Cym. Mini Verde* exhibited by F&J Coker. The Best Seedling Flowering For the First Time was *Cym. (Summer Pearl x Via Lunagrad)* exhibited by A&J Leamon.

### Ross Tucker

The Cymbidium Orchid Society of Victoria has secured a visit to Australia by prominent New Zealand hybridiser and nurseryman, Ross Tucker, who will be speaking at our general meeting on August 8th and will have flasks of exclusive *Cymbidium* hybrids for sale on the night. The COSV extends a cordial invitation to members of other clubs to join us at our August meeting for an interesting and enjoyable evening. If unable to attend our meeting there will be another opportunity for orchid growers to meet Ross, at the OSCOV International Orchid Spectacular 2000 to be held at Collectors Corner (Garden World, Keysborough), on Friday 18-Sunday 20 August.

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*Cym. Julie Hawkes 'Parfait'*



# A Visit to Kimberley Orchids

by Noe Smith

**K**imberley Orchids and its proprietors, Peter and Joyce Sunderland, have built up a well deserved reputation in *Cymbidium* circles for their quality of culture and well-presented plants seen at orchid shows in Victoria and around Australia. Along with their show bench successes, the Sunderlands run a successful commercial *Cymbidium* nursery specialising in cut-flower production, but also including pot plant sales, the sale of seedling stock from their own breeding program and selected mericlones aimed at the *Cymbidium* enthusiast.

Taking a trip to their nursery and home at Devon Meadows, south-east of Melbourne, to discuss the Kimberley Orchids story was another chance for Rob and I to wander around one of the most attractive and well-kept orchid nurseries in the country, view their healthy well-grown plants and, of course, to discuss cymbidiums with Peter, Joyce and their daughter, Jennifer. This visit was in January and consequently well out of flowering season with the *Cymbidium* houses having only foliage on show, except for the spikes still carrying pods and which were festooned with labels indicating the parentage of the past season's breeding efforts. It was also a good opportunity to look at the Sunderland's culture - the healthy fat bulbs and strong, erect leaf growth - as during the flowering season it's hard to make yourself see past the masses of flowers which fill the benches in all but the seedling houses. If your taste in cymbidiums runs to massed displays of powerful spikes carrying big, shapely blooms then there are few better places to see in the flowering season than Kimberley Orchids.



(From L to R): Joyce and Peter Sunderland and daughter Jennifer. Photo by Noe Smith.



*Cym. Poetic Justice* 'Kimberley Snow'.

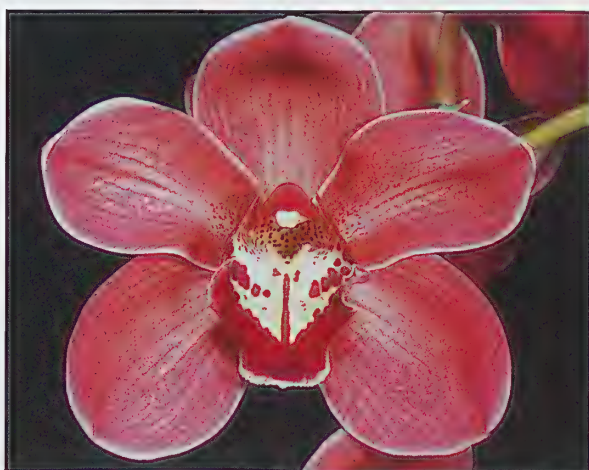
On arriving at the property a curved scoria driveway led through a stand of trees to a large area of lawns and garden beds surrounding the two houses on the property, the homes of Peter and Joyce, and Jennifer, her husband, and family. From there, the property drops away in a gentle slope and it's in this area that the various orchid houses have been built. Apart from two large glasshouses (one of which is temperature controlled and houses a fine collection of tropical orchids including vandas, phalaenopsis, paphiopedilums and cattleyas), the rest of the nursery consists of timber-framed houses with shade cloth walls and mostly fibreglass or polycarbonate roofing which house the cymbidiums.

While Kimberley Orchids has been at its present address, 54 Worthing Road, Devon Meadows, Victoria, since September 1991, the Sunderland's involvement with orchids goes back a lot further than that. Peter began growing orchids in his early twenties and, always keen on growing plants of any type, he set up a small orchid house and began his orchid life with back bulbs of various cymbidiums, as did most growers in those years. Initially, Peter only grew cymbidiums for his own pleasure but soon became involved in orchid clubs and commenced showing his plants, although he didn't have many to show in those days. Mericlones were not available and back bulbs were not cheap, usually around £5.00 each. Having finally grown on his first back bulbs into big plants in 10" pots, Peter discovered what virus was and had to begin collecting all over again!

Peter's first award came in the form of an Award of Distinction for colour for a



*Cym. (Valley Knight x Green Glass)* 'Devon Pastel'. Photo by Sean Moore.



*Cym. (Red Valley 'Wild Cherry' x Cronulla 'The Khan')*. Photo by Sean Moore.



cultivar of *Cym. Sensation* grown from a batch of seedlings he'd purchased from the Wondabah nursery in Sydney. *Cym. Sensation* 'Kimberley' signalled the future nursery name back in 1964, the choice of Kimberley coming from Peter's family association with the Kimberley Ranges - his mother's side of the family being among the first people to introduce stock into the area and begin developing the region as grazing country. The name Mardie, given as the cultivar name to their awarded *Cym. Sylvan Beach*, was the family's property name and also Peter's Mother's name.

The orchid scene was very different then to what we take for granted today. Peter was a member of two of the three Melbourne orchid clubs then, the VOC and Melbourne-Eastern (the third club being Warringal). Working in the building industry and having access to shavings from Australian hardwoods such as Jarrah and Red Gum, Peter used those shavings in his potting mix, along with fowl manure, as the main ingredients. Good results were obtained despite the presence of plenty of worms in the mix, although Peter recalls that a good root system could still be maintained even though the worms reduced the mix to a form of mud, especially in a house with a little heat provided to the plants. One trip to Sydney to buy orchids included a trip to the famous Dos Pueblos nursery at Dee Why, where huge *Cymbidium* plants were grown in raised ground beds of sand to produce blooms for the overseas cut-flower market.

The Sunderland's enthusiasm for cymbidiums led to the eventual expansion of their orchid house at their Burwood home to include the whole of their 65' x 100' back yard and their collection grew there until the move to Devon Meadows in 1991, when they bought what had previously been the Lazy Possum Nursery. Peter and Joyce say the nursery area is now four times as big as it was in 1991.

When it comes to culture, Kimberley Orchids shows a level of care and attention which extends across all areas of their orchid growing. Despite the size of the growing areas, there is barely a weed to be seen anywhere, whether in the paths and lawns surrounding and between the houses, or in the paths and under-bench areas inside the houses - let alone in any of the pots. Paths in the houses are scoria and delicate ferns grow under the orchid benches which are weldmesh set at about 15 inches above ground level. The houses have good roof height with most being around 10 feet. The original orchid house, on site when the Sunderland's moved in, is a few feet higher again. Watering is overhead and fertiliser is fed via the same system. They mix their own fertiliser ratio



Kimberley Orchids display at the Collector's Corner show in August 1999. Photo by Sean Moore.

because feeding on a large scale can turn out to be a costly business using prepared mixtures. In addition to liquid feed applied via the watering system, they also use slow release *Macrochote* added to their potting mix, preferring to use that brand because it's made by an Australian company. Top dressing with dolomite lime is also carried out to provide a constant slow leaching of calcium to the plants.

Their potting mix consists of straight bark with only the grade being varied dependent upon the plant and pot size, small plants being potted in 8-10mm grade, while mature plants go into 10mm or larger grade. Water pH is tested three times per year using kits designed for testing aquarium water and an EC meter is used to check electrical conductivity. Like every other *Cymbidium* grower, they try and maintain adequate spacing between plants to allow free air movement and maximum light penetration to each plant, but as with all of us, large or small, it's a constant battle. Peter firmly believes that



*Cym. Sylvan Beach* 'Mardie' HCC/OSCOV.



Entrance to Kimberley Orchids property. Photo by Rob Smith.





Glass house and *Cymbidium* houses. Photo by Rob Smith.

good light is an important factor in overall plant vigour and aids in promoting better root systems with more vigorous growth being apparent in the root systems of plants receiving optimum light. In areas of pest and disease control, the Sunderland's shy away from the use of potent chemicals unless there's no other alternative. Any treatments required from time to time are limited to necessity only, rather than cycles of preventative mass 'sprayings'. Insect predators are used to control infestations of pest insects. Combined with good culture and robust, healthy growth plants are generally less susceptible to infestation and disease. Peter noted that from time to time the odd plant will be affected by pathogens causing various kinds of rots and, although these problems are infrequent, will resort to chemical treatments in such cases if required.

In the area of plant type and flower size, Peter and Joyce have rather different views. As most of you would know, Peter has a bit of a soft spot for large-flowered standards of the show bench variety, while Joyce favours intermediates and miniatures and maintains a quality selection of plants of that type. Kimberley Orchids' show displays may be dominated by impressive standards, but usually have a number of well-grown and presented smaller-flowered varieties rounding out the picture. In recent years, Kimberley Orchids have achieved a rather long list of

impressive show and award results and we couldn't resist asking which one they were most proud of. An unfair question I know and a bit like asking which is a parent's favourite child but, after some consideration, Peter said if he had to choose one it would be the awarding of *Cym. Sylvan Beach* 'Mardie', that award being what he considered their first 'real' award.

Note: Just shows how wrong you can be, as I would have guessed that last year's Ararat Grand Champion and AM/OSCOV-winning plant *Cym. (Valley Splash x Lunara)* 'Yellow Haze' may have been the one as it resulted from their own breeding program. Good thing I'm not a betting person, isn't it?

Eventually, the conversation moved to the topic of hybridising and Peter mentioned some of the parents and crossings he has high hopes for among their own breeding efforts. He's been very pleased with the results from various cultivars of *Cym. Valley Splash* that they've flowered at the nursery, with the cultivar 'Joy' being used in the successful crossing with *Lunara* 'Kimberley' to produce the awarded 'Yellow Haze'. Various cultivars of *Cym. Cronulla* have given good results as has *Cym. Red Valley*. Peter is currently using their *Cym. Coraki Gold* 'Kimberley' with keen anticipation.

Peter looks for large, shapely, flat flowers for his hybridising program, preferably with straight spikes and good counts, as his

goal is to breed for show bench potential and cut-flower use. He doesn't breed for pot plant use, but knows that if shapely and floriferous parents are used he'll get a percentage with pot plant qualities which they'll use if they want to as there's a ready market for them. Peter prefers clear colours over patterned types and whether breeding for pastel, bright, or darker colours, looks for parents to provide a clean result. Asked if they also breed for intermediate results, Peter replied that he's sure he did one cross last season but, somehow, I don't think we're seeing a major shift in emphasis in the Kimberley Orchids' breeding program!

When it comes to their own hybrids, they always have high hopes for the crossings made, although Peter speculated on just what justifies a hybrid being judged a successful crossing, pointing out that many hybrids may produce only one or two good cultivars with the rest being essentially waste. He regards Alvin Bryant's hybrid *Cym. Cronulla* (Alvin Bryant x *Lunagra*) as one of the best crossings for the high percentage of good cultivars resulting from the cross, with many fine cut-flower varieties, some good breeding plants and some fine show bench types being produced.

Rob and I could have happily chatted on for many more hours but somehow mid-afternoon had turned into early evening so we took some photographs before the light faded and then said goodbye to two of the nicest, most down-to-earth and modest people we've had the good fortune to get to know. This orchid-growing thing is a great life, isn't it?

Noe Smith  
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One view from inside a *Cymbidium* house. Photo by Rob Smith.



# Profiling *Cym. Trigo Royale*

by Bill Johnson

I wonder how many would buy seedlings if a description of one of the parents of a standard size *Cymbidium* read; "Produces flowers 60mm wide by about 75mm with petals that thrust forward so they almost touch, has a triangular lip, has

basal sepals that roll up and then point straight down, thin erect raceme carrying four to seven flowers that lack substance."

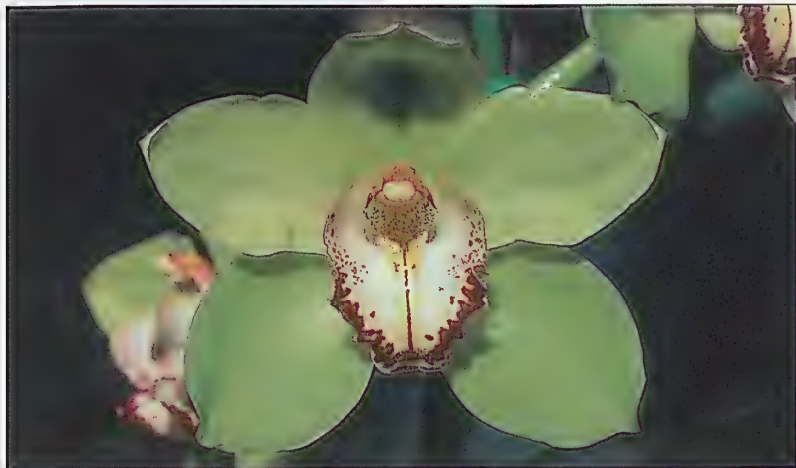
What I have just described is the species *Cym. erythrostylum*.

From a hybridisers point of view the

worthwhile attributes of *Cym. erythrostylum* are early autumn flowering, an erect spike, miniature plant habit, and for those who want clear whites, its clarity of colour. In spite of its lack of any trait that could produce a prize winner, some had foresight to experiment with it. The first seedlings to flower were probably a mixture of absolute rubbish with a few worth using as a parent.

During the 1980's the need for erect racemes became a necessity for commercial reasons. Breeders also discovered that they were required to produce that rounded, filled-in shape that is so common today. *Cym. erythrostylum* proved to be the main source of those characteristics. So, it was just as well those early breeders persisted because *Cym. erythrostylum* contributed the genes that has enabled breeders to create numerous world-class tetraploid cymbidiums using such clones as *Cym. Earlyana*, *Trigo Royale*, *Albanense*, *Fred Stewart* and *Stanley Fouraker*.

It is this group I will be profiling in forthcoming issues, commencing with



*Cym. (Trigo Royale x Operetta) 'Opus 9'*

## 1999 Cymbidium of The Year

Text by Dean Roesler – Photography by Graham Shevlin

Late last year members of the Cymbidium Club of South Australia voted for their choice of Cymbidium of The Year. They choose the lovely yellow standard, *Cym. Coraki Gold 'Kimberley'* CE/CCSA, owned by Moss Bray of Sims Orchids. This orchid has impressed many *Cymbidium* enthusiasts with its striking canary yellow segments and brightly banded labellum. Moss obtained his plant of 'Kimberley' from Kimberley Orchids who had flowered it from a flask of seedlings. This plant also received a Commendation for Excellence at the July meeting of the club. The *Cym. Coraki Gold* (Winter Hunt x Coraki) cross was produced by Bryants Orchids and registered in 1995. It was a very consistent cross and produced many fine yellow standard cymbidiums.



*Cym. Coraki Gold 'Kimberley' CE/CCSA*

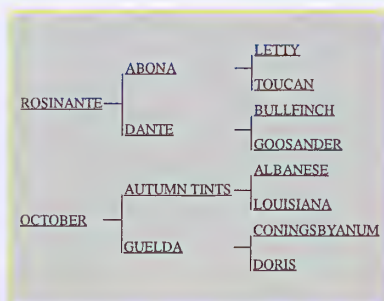


*Cym. Trigo Royale* (Rosinante x October). (see genetic chart).

The grex *Cym. Trigo Royale* was registered in 1970 and a number of clones are known to have been used in breeding programs - 'Ridgeway', 'Off's Variety' and 'C1'. They are natural tetraploids that flower around May/June, depending upon climatic conditions. One of its great-grandparents is *Cym. Albanese* (*erythrostylum x insigne*) and this is the sole infusion of *Cym. erythrostylum*.

Up until 1999, at least 70 hybrids have been registered from *Cym. Trigo Royale* clones but more unregistered crosses probably exist.

Considering its distant parentage one would expect *Cym. Trigo Royale* to pro-



Genetic Chart for *Cym. Trigo Royale*

duce smallish flowers, but my cross of *Cym. (Operetta x Trigo Royale)* produced a range of flower sizes up to 150mm. This is somewhat surprising since both parents

possess *Cym. erythrostylum* genes - but it seems to be a common factor in its progeny.

From a showbench point of view, *Cym. Trigo Royale* 'Ridgeway' could not be considered a contender for even minor prizes against many of today's cymbidiums, but its first and second generation progeny certainly have and more will.

As a parent *Cym. Trigo Royale* consistently produces good flower shape. Raceme habit and flower count is variable, as one would expect considering *Cym. erythrostylum*'s characteristics, so any parent used with it must have genes for high flower count and a strong raceme.

When breeding with clones possessing *Cym. erythrostylum* in their parentage one has to be careful because this can cause a return of an undesirable labellum shape, a red column and undesirable flower shape. Its red column is an undesirable feature if cut flower production is intended.

There is one genetic fault common to many clones bred from *Cym. erythrostylum* - a lack of flower substance - which allows flower damage in cold, moist growing conditions. This trait has appeared several generations removed from *Cym. erythrostylum* and has recurred in its line bred crosses.

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We hope to announce shortly a major expansion in our offerings of showbench cymbidium mericlones. These have been specially selected from our extensive collection and are currently being grown and tested specifically for showbench requirements.

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*Cym. Happy Promenade* 'Neville' (Red Beauty x *Trigo Royale*)



So far I have not observed it in my *Cym. Trigo Royale* seedlings but this may be the reason why some avoid buying seedlings from *Cym. Trigo Royale* and other *Cym. erythrostylum* progeny. However, I would consider that it comes down to the choice of the parent used and how frequently the same undesirable genes are infused.

During 1999 I saw some first flowering seedlings from various crosses bred from *Cym. Trigo Royale* and they were superb with no evidence of flower damage. However, I have experienced considerable problems with other clones bred from *Cym. Winter Fair* and related clones in our colder Victorian conditions.

Several first generation grexes from *Cym. Trigo Royale* will be well known to growers, some of which I would rate highly as parents rather than as showbench clones, nevertheless they have been well received by our judges and those who buy orchids.

From my point of view as a hybridiser, I can't wait to see some of those second and third generation *Cym. Trigo Royale* seedlings at our shows. Many already exist but, as always, it is a slow progress from first flowering to the general market and then to the showbench.

The main area of interest at this time are

the seedlings from the various *Cym. Tracey Reddaways* that have already flowered.

For those who are reluctant to gamble on seedlings I am reasonably safe in saying that providing the other parent is a reputable breeder with a high flower count there is little risk involved with seedlings from *Cym. Tracey Reddaway* (especially the varieties 'Sunrise' and 'Sunset').

*Cym. Trigo Royale* will produce pinks, whites, yellows and greens but not albinos. But then seedlings from it that carry the albino gene already exist so it is only a matter of time before they too will appear. Since they produce pinks, then reds are also possible.

As with all hybridising it is a matter of

knowing the genetic history of the parents being used and calculating the likely outcome. Since breeding is usually 90% anticipation and 10% realisation, we must expect some undesirable outcomes, even from the most highly rated parents. In the case of *Cym. Trigo Royale* the total evidence available suggests that those who malign it have not considered the total picture and perhaps their opinion was formulated on a small sample.

Whatever the perception of the *Cym. Trigo Royale* clones as parents the results of their contribution, so far, speak for themselves.

Bill Johnson

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## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>Queensland</b>				
10 June	1.00pm-5.30pm	Winter (Orchidfest 2000)	Bundaberg	Civic Centre, Bourbong Street Bundaberg
11 June	9.00am-5.30pm			
12 June	9.00am-1.00pm			
17 June	9.00am-5.00pm	Winter	Townsville	T.O.S. Hall, Pioneer Park Ross River Road Condon
18 June	8.00am-5.00pm			
19 June	9.00am-4.00pm			
7-8 July	Ingham Show Times	Winter	Herbert River Orchid & Allied Plant	Showgrounds Ingham
8-9 July	TBA	Winter	Hervey Bay	Urangan High School Robert Street, Urangan
8-9 July	9.00am-5.00pm	Winter	Maribyrnong	Maribyrnong Community Centre Randall Street, Maribyrnong
10 July	8.00am-10.00pm	Winter	Atherton Tablelands	Merrilands Hall Robert Street Atherton
11 July	8.00am-4.00pm			
14-16 July	9.00am-5.00pm	Winter	Caboolture	Caboolture Civic Centre King Street, Caboolture
22-23 July	TBA	Winter	John Oxley	Mt. Cootha Botanic Gardens Brisbane
23-24 July	7.00am-9.00pm	Winter	Douglas	Mossman Agricultural Show Mossman Showgrounds Mossman
28-29 July	9.00am-8.00pm	Winter	Tully & District	Tully Agricultural Show Tully Showgrounds, Tully
4-6 August	8.30am-4.00pm	Winter (Combined Show)	Toowoomba and Darling Downs Orchid Assoc.	Walsh's Seeds and Garden Centre 891 Ruthven Street Toowoomba
<b>New South Wales</b>				
10-11 June	9.00am-4.00pm	Winter	Camden Haven	Catholic Church Hall Ocean Drive Laurieton
10-11 June	9.00am-4.00pm	Winter	Great Lakes	Forster Primary School Head Street Forster
28 June-1 July	Shopping Centre Hours	Winter	Blue Mountains & Penrith District	Nepean Square Shopping Centre Station Street Penrith
28 June-1 July	Shopping Centre Hours	Winter	Leisure Coast	Westfield Shoppingtown Figtree
1 July	9.00am-3.00pm	Winter	Southern Riviera	Church Hall Milton
5-8 July	Shopping Centre Hours	Winter	Cumberland Orchid Circle	Westfield Shoppingtown Rocks Road North Rocks
6-8 July	Shopping Centre Hours	Winter	Eastwood & District Orchid Circle	Eastwood Shopping Centre Rowe Street Eastwood
6-8 July	9.00am-5.00pm	Winter	Manning River	Taree High School Albert Street Taree
9 July	9.00am-4.00pm			
18-22 July	9.00am-5.00pm	Winter	South Coast	Corrimal Court Princes Highway Corrimal
19-23 July	Shopping Centre Hours	Winter	Central Coast- Hunter Region Cymbidium	Lake Haven Shopping Centre Lake Haven
21 July	12 noon-4.00pm	Winter	Shoalhaven	Presbyterian Hall Kinghorn Street, Nowra
22 July	9.00am-4.00pm			
22-23 July	9.30am-5.00pm	Winter	Gosford & District	Brentwood Retirement Village Scaysbrook Drive Kincumber
2-5 August	Shopping Centre Hours	Winter	Fairfield District	Fairfield Forum Shopping Centre Fairfield



DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>Victoria</b>				
10-11 June 12 June	9.00am-5.30pm 9.00am-4.30pm	Winter	Melbourne Eastern	TAFE College 585 Waverley Road Glen Waverley
24-25 June	9.30-5.00pm	Winter	Victorian Orchid Club	Red Cross Centre Austin & Repatriation Medical Centre, Heidelberg Campus, Gate 7 Bell Street Heidelberg
8 July 9 July	10.00am-4.30pm 10.00am-4.00pm	Winter	North East	Bulleen Heights School Pleasant Road Bulleen
8 July 9 July	12 noon-5.00pm 9.00am-3.00pm	Winter	West Victorian (Stawell)	Masonic Hall Skene Street Stawell
14-16 July	Shopping Centre Hours	Winter	Sunraysia Orchid Club	Mildura Centre Plaza Shopping Complex Cnr. Deakin Avenue & 15th Street Mildura
15 July 16 July	10.00am-5.00pm 10.00am-4.00pm	Winter	Yarra Valley	B.&T. Ferns & Native Orchids Lot 2a, Old Emerald Road Monbulk
16-22 July	Shopping Centre Hours	Winter	Ringwood	Eastland Shopping Centre Maroondah Highway Ringwood
22-23 July	9.30am-4.30pm	Winter	Warringal	St. Sava Community Hall 212 Diamond Creek Road Greensborough
28-29 July	Shopping Centre Hours	Winter	Melbourne Western	Werribee Plaza Cnr. Derrimut and Heaths Roads Werribee
30 July-5 Aug	Shopping Centre Hours	Winter	Mornington Peninsula	Cranbourne Park Shopping Centre Cranbourne
<b>South Australia</b>				
26 June-1 July	Shopping Centre Hours	Winter	Gawler District	Hollywood Plaza Shopping Centre Spains Road Salisbury Downs
7 July 8-9 July	12 noon-4.00pm	Winter	Murray Bridge & District Orchid Club	Town Hall Bridge Street Murray Bridge
18-22 July	Shopping Centre Hours	Winter	Whyalla Orchid Club	Westland Shopping Centre Whyalla
21 July 22 July	9.00am-5.00pm 9.00am-3.00pm	Winter	Port Augusta Orchid Club	Gateway Shopping Complex Port Augusta
30 July-5 August	Shopping Centre Hours	Winter	Northern & Eastern Districts	Northpark Shopping Centre Main North Road Prospect
13-19 August	Shopping Centre Hours	Winter	Northern & Eastern Districts	Modbury Triangle Shopping Centre North East Road Modbury
<b>Western Australian</b>				
27-29 July	8.30am-5.30pm Closing 1.00pm Saturday	Winter	Albany	North Road Shopping Complex Albany
<b>New Zealand</b>				
16 July	TBA	Winter	Waikato	Hamilton Gardens Hamilton



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## From the Editor's Desk



One of the things we tend to take for granted is the backyard space most of us have to grow our orchids. Also, we are blessed that there are various climates throughout Australia to grow many types of orchids out of doors, at least for most of the year. In North America and Europe many grow their plants on windowsills indoors, I don't suppose you have much choice if you live in an apartment. Arguably the most popular orchid for indoor culture are the moth orchids – *Phalaenopsis*. In this issue Dennis Diehm shows us many examples of the latest breeding of these colourful novelty plants with long lasting blooms.

Australian orchids feature in the article by Alan Stephenson, including a number of photographs of flowering plants in the wild. Frans Beukelman tells us about some of the orchids he found on a recent trip to Bolivia, a small South American country situated between Brazil, Peru, Chile, Paraguay and Argentina. Have a look at the photos of the two different *Telipogon* species, how I wish we could grow them in Australia. Jim Cootes educates us about a *Dendrobium* species, which has been misnamed in collections and I discuss three closely related "blue" flowered *Dendrobium* species from the Philippines.

We also have an official response from Kew Gardens to the comments made by Eric Hansen in his book, *Orchid Fever*, as reviewed in the last issue. It is published in its entirety. I got wind of all this controversy back in February, when I was in San Francisco for the annual Orchid Exposition. I ended up being handed a copy of the book...by the author! I must admit, I couldn't put it down, and found it a most entertaining read, and chuckled quite a bit as well. I had to stop at times to question if all this could be true, or if fact had been stretched and twisted somewhat. I know quite a few people who are mentioned in the book, and to me some of the events seem a little far-fetched. I'm sure all this has led to an explosion in book sales, and probably a movie down the track – well it did make it on the US Edition of 60 Minutes.

### Mr. Frank Slattery O.A.M. (1903-2000)

Australia and the orchid world recently lost one of its icons with the passing of Frank Slattery, at the age of 96. Frank was involved in the formation of many orchid societies and councils, the most important being the Australian Orchid Council. He ran his orchid nursery at Bexley till the day he passed away. Frank was a gentleman who will be remembered mainly for the role he played in promoting fine *Cattleya* and *Cymbidium* hybrids, and was one of the first people to seriously import orchids from overseas, particularly the USA and England. He developed and promoted the method of re-establishing orchids in sphagnum moss after they had been imported and undergone the stress of gassing.

I vividly remember Frank taking dad and I into his quarantine house to show me a newly discovered slipper orchid from Indonesia. (You weren't really allowed to do this and we had to keep quiet about it.) It was the bright yellow *Paphiopedilum primulinum* and the year was 1974 (and I was only nine years old!). It had only been discovered a year earlier and it must have cost a fortune for the person who had imported it. At the time we thought we would never see this one again, let alone have the chance to grow it ourselves. I still think of that when my plants of this species bloom. That day, he gave me a plant of *Lycaste deppei*, which I still grow and flower (well I couldn't get the yellow slipper!). The other memory from his quarantine house was the superb specimen, just on the left as you walked in, of the Philippine species, *Phalaenopsis schilleriana*. It was a huge plant with lovely tessellated leaves, which always seemed to have a perpetual cloud of pink flowers. Apparently someone imported it and just never picked it up, so Frank just left it there waiting for it to be collected. Judging by the vigorous root system that wondered over the glasshouse walls that must have happened quite some time beforehand. Frank wrote about his life in orchids in his book, *The Blooming Years*, published by the Australian Orchid Council in 1995.

David P. Banks  
 Editor, Australian Orchid Review  
 dpbanks@ozemail.com.au



## OUR COVER

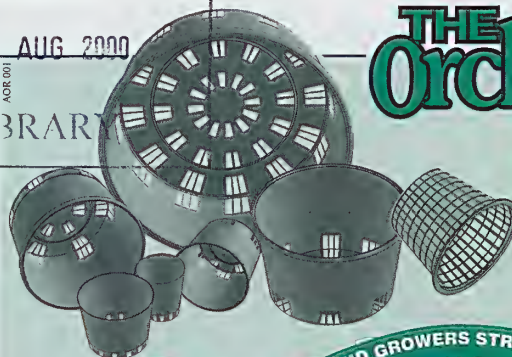


*Phalaenopsis* Brother John  
'Lentigo' HCC/AOC-NSW

In this issue, Dennis Diehm of Dendi Orchids shares he secrets on growing lovely Novelty *Phalaenopsis*, and shows us what a wide range of colours and styles they come in. They are also becoming increasingly popular as houseplants.

Photo: Dennis Diehm

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August/September 2000

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N

*Phal.* Brother Dendi 'Picasso' HCC-AD/AOC-NSW



# velty Phalaenopsis

Text & photos by Dennis Diehm





**A**t shows I often stand admiring the different displays by nurseries and societies and listen to comments made by people about the various orchids, which display themselves so proudly. None more so than the Novelty *Phalaenopsis* with their thick textured, highly coloured (more often than not with spots, bars or blotches) well-rounded blooms. One of the biggest problems is, that there are not enough of these orchids grown in Australia so when they make it to the show bench they are a real eye catcher. However, the comments made by well meaning people, "if you want to grow those you'll need lots of heat", seems to be the thought of a number of hobby growers. If it doesn't live in a bushhouse and if it needs a good deal of attention, I don't want to grow it. Well, hopefully in this article I may be able to put some of those fears to rest, especially for those growers who want to grow one or two or even half a dozen in the home.

I live in Griffith, which is situated roughly halfway between Sydney and Melbourne in the Murrumbidgee Irrigation Area, 130 metres above sea level. Our average summer daily temperature is 35°C to 15°C at night and in winter 13°C during the day and 0°C at night. As you can see the climate is hot in summer, cold in winter, but it is the old story, if you want to grow orchids you must create the environment the best way you can.

I grow my *Phalaenopsis* in a tunnel house, which is covered with polyflute (a fibreglass type material). In summer I cover this with shade cloth of 70%, this is kept at least 40cm off the roof and walls of the polyflute to allow air movement between the two. In winter I take the shade cloth off to allow full sunlight to penetrate the house, on the inside there is Ulf 70 living shade, this gives extra protection during summer and during winter and it is drawn closed during the late afternoon to keep some of the heat in overnight and then reopened the next morning to let the sunlight in. The house is heated with under bench cable, this supplies heat directly to the base of the plants and then rises up through the leaves for the novelty *Phalaenopsis* – I like to keep this at 10°C. I find the harder they are grown the better the colour and the stronger the spikes, although I do give up a little on flower size, but I have noticed that as the plants adjust to this growing method the flower size does increase, in particular seedlings that have known nothing else do not tend to suffer this problem, the other benefit is that the flowers last longer.

Air movement in the house in the win-



*Phal. Bright Peacock*



*Phal. Brother Lawrence*

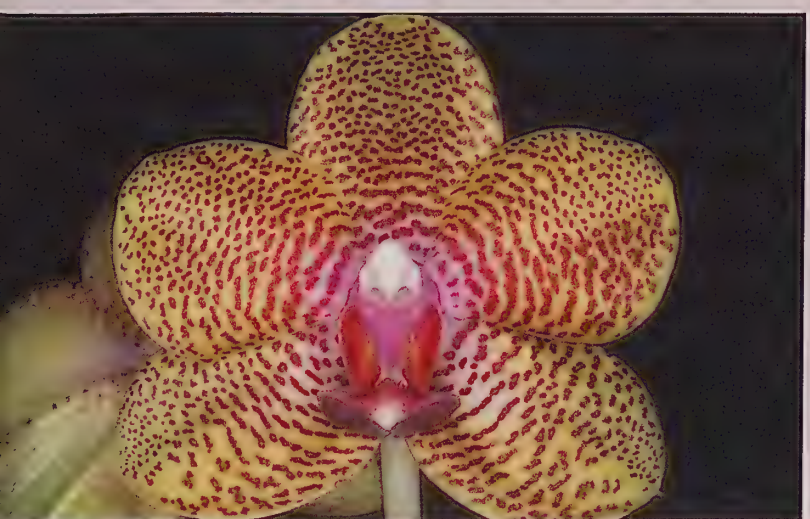




*Phal.* (Brother Fancy x *amboinensis*)



*Phal.* (Kungs Ann x Brother Coral King)



*Phal.* (Caguas Tiger x Mem. Regina Busse)

ter is by internal fans, these go day and night as Botrytis is my biggest problem during winter, so air movement is important to cut down on the night humidity. Because our summers are hot and dry I use a large evaporative cooler to try and keep the house at 35°C also creating humidity to give the plants a better chance of survival.

Potting mix – over the years I have used all types of potting material ranging from sphagnum to peat and bark mixtures. The reason being, that because of the hot dry area they live in, the need to keep moisture around the bottom of the leaves is essential. The biggest problem with peat is the amount of ferns and weeds that seem to appear from nowhere, sphagnum moss has been used with success in areas where the climate is not as cold as ours. The mix that I have finally settled on is 50% medium size treated bark and 50% coconut chips. The coconut chips have to be soaked in water at least twice over a period of two weeks to bleach out any salts (available from Royale Orchids and Dendi Orchids). I have found that the growth of the plants in this mix is far superior to the ones growing in the old peat and bark mix.

Now you're saying, I don't want to go to all that trouble – how can I grow a couple of these in the home, just to get started. Okay, first of all, don't grow them in your bathroom. This is possibly the coldest room in your house; let's move to the kitchen or living room where there is warmth and activity. The plants can be admired, not just for their flowers but their big glossy leaves and long grey roots looking for something to hang on to.

Light is very important. In most areas, indirect sunlight is required – grow the plant on the shady side of the house, September to April, then shift to the sunny side for the winter months, please note light and water go together.

Less light = less water.

More light = more water.

Some of the warning signs the plant will show over a short time are;

Dark leaves = requires more light

Yellow leaves = requires less light

Be careful of too much direct light as leaves may sunburn.

*Phalaenopsis* grow on trees and therefore will be all right with the occasional drying out, but will not handle too much water over a long period. Do not over water! The best time of the day is early in the morning, giving the plant time to dry out before night sets in. You can give your plants a soak watering by placing the plant in a bowl of water and leaving it for 15 minutes, by this time the mix should have taken up enough water. The best way to tell



if your plant needs water is when the top one-third of the mix is almost dry. If in doubt, leave until the next day. If your plants are drying out too quickly add a small amount of sphagnum moss and pebbles to the surface of the pot. This will slow down the evaporation rate from the mix.

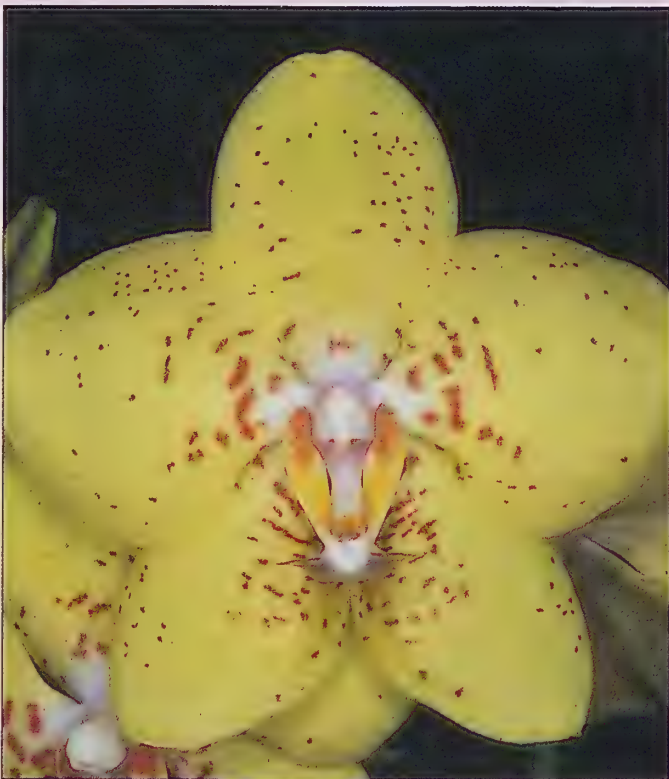
**Misting and Fertilising** – It's morning tea-time! So why not include a misting into this ritual, (in the summer anyway, in the winter once to twice a week should be enough). Just use a trigger pump atomizer (like the one used when ironing). Fill it with water and fertiliser. Any good brand will do, I like to use fish emulsion one week then some other the next week. Why put fertiliser in the misting water you may ask? Under the leaves of *Phalaenopsis* (and many other plants) there are pores, these pores open and close to regulate the plants absorption of moisture. In suitable conditions the pores are open most of the time, so misting is the most convenient way to apply moisture and nutrient. When there is excess leaf temperature the pores close to protect the plant from dehydration and the silver coloured roots growing out of the potting mix will absorb the mist solution.

Snails and slugs love *Phalaenopsis*. They will crawl a long way just to have a feed, so use plenty of bait. Mealy Bug is probably one of the biggest nuisances for most orchids. A recommended pesticide should be used – a visit to your local chemical distributor should point you in the right direction. Water in well, making sure the spray gets into the mix – it must be done three times at 10 day intervals, so that the breeding cycle of the mealy bug is disrupted. You must always assume that if one plant has mealy bug that they will all have it. The under side of the leaf needs careful inspection for Red Spider Mite damage. The small mites are not visible to the naked eye and are only detected by a silvery look and damaged appearance. The treatment is usually the same as for mealy bug. With Scale, the little brown lumps on the leaves can be scraped off with your fingernail or methylated spirits on a cotton bud; this is a non-toxic way of ridding the plant of this pest.

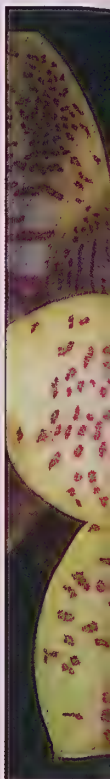
Botrytis is a real nuisance, as the flowers become infected with small brown spots. It is best to remove the flower and increase the airflow to cut down the humidity on cooler evenings. A fungicide can be used, again check with your local supplier. Brown Rot can start as a brown spot on the leaf and will quickly turn the whole leaf to mush, it can also strike the axil of the plant. Both of these can be fatal



*Phal.* (Golden Sun x Sara Lee Eye)



*Phal.* Taida Lawrence



*Phal.* Orchid





*Dtps. Chingrvey's Smile 'Dendi's Shiraz'*

unless caught in time with sulphur powder and a blade to remove the infected area. Another treatment is to pour methylated spirits over the rot or wound, this will not harm the plant with occasional use. If your plant is infected or otherwise in a state of stress, remove the flower spike, as this will help the plant recover.

The other question that is quite often asked is when to re-pot. I use the following principle;

- 1) the plant is too large for the pot
- 2) the mix has decomposed
- 3) the roots are dead
- 4) you don't like the container
- 5) you just want to
- 6) every two years, if the above do not apply

Breeding programs, including those by Robertson's Orchids in Queensland and myself are ensuring that these colourful orchids will continue to be available in Australia. Hopefully the future generations of these plants will have a higher flower count and be more tolerant of lower temperatures. ■

*Dennis Diehm  
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P.O. Box 1119*

*Griffith NSW 2680*

*Email: dendi@webfront.net.au*



*Brother'*



*Phal. Goldberry 'Dendi'*



# A Trio of "Blue" Dendrobiums

by David P. Banks



*Dendrobium ceraula*, light blue form (photo David Titmuss)

**T** rue "blue" is a very rare colour in orchid blooms. The only really "true blue" orchids I have seen include some of the sun orchids in the Australasian terrestrial genus *Thelymitra*, in particular *T. crinita* and forms of *T. ixioides*. Various orchid species have been classified as blue, even though they are really more in the lilac shades. Whatever you call them, all agree that the colour are fairly unique, and this has made many of these popular in cultivation. One of the most famous examples is *Vanda coerulea*, native to Thailand and surrounding countries. Some clones of *Acacallis cyanea*, have powder-blue floral segments with strong degrees of blue on the labellum. Other species, which have been coined "Blue Orchids" include *Bollea coelestis*, *Caladenia caerulea* and *Vanda coerulescens*. Then of course there are many choice "blue" or "coerulea" forms of several of the *Cattleya* and *Laelia* species from Central and South America, and these have also been used in hybrids.

The genus *Dendrobium*, in the very broad sense, comprises arguably 1500 different species. Here again, blue is a very rare colour in this Asian genus. In

## *Dendrobium ceraula* – the correct name for *Dendrobium gonzalesii*

By Jim Cootes

**D** *Dendrobium gonzalesii* is now a fairly commonly grown orchid in Australia and overseas, due to imported plants and subsequent seedlings being made available. Its ease of culture, many colour varieties and free blooming habit has endeared it to many orchid species enthusiasts. Of course, the fact that it will take a wide range of temperatures is another big plus for this lovely species.

During the research for my upcoming book, *The Orchids of the Philippines*, much work has been done to try and ensure that the taxonomy (i.e. the names of the species) is up-to-date and correct. I have been very fortunate in being able to use the facilities of the Centre for Plant Biodiversity Research (CPBR), part of

the National Herbarium in Canberra. At the Centre, I have been able to peruse the collections of microfiche, which illustrate the type specimens of the Oakes Ames Herbarium, the Lindley Herbarium and the Reichenbach Herbarium, plus others. It has been during my examinations of the type specimens of the many species researched, that I came across *Dendrobium ceraula* in the microfiche collection from the Reichenbach Herbarium. This microfiche contains a line drawing of an orchid, which is undoubtedly, what we have been commonly calling *Dendrobium gonzalesii*.

*Dendrobium ceraula* now has to be used, because the rules of botanical nomenclature clearly state that the oldest

name has priority. *Dendrobium ceraula* (pronounced serra-oola) was published in 1876 by Professor Heinrich G. Reichenbach, in Linnaea. Dr. Eduardo Quisumbing, author of *Dendrobium gonzalesii* did not publish his name until 1938, in the *Philippine Journal of Science*, some 62 years later. The downside of this discovery is that, those enthusiasts fortunate enough to have plants of this species will have to change their labels!

My thanks to Mark Clements, David Jones and the staff at CPBR for their assistance and the use of their extensive library and herbarium.

Jim Cootes

Email: [jecootes@ozemail.com.au](mailto:jecootes@ozemail.com.au)

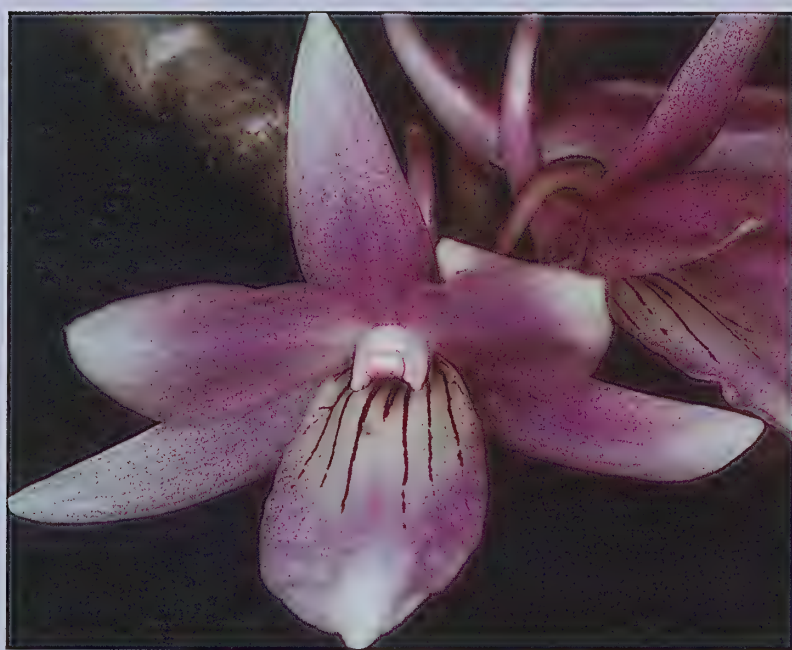


Australia, there are lilac clones of *D. bigibbum*, which are certainly different to the mainstream deep pinks to purples. In New Guinea, the related *D. williamsianum* has a blue flush to the flower whilst *D. vexillarius* (from Section *Oxyglossum*) has a wide range of colours – some with blue in the labellum.

In the Philippines, there are three endemic and closely related *Dendrobium* species that certainly have blue elements in the flowers. All three are presently placed in the broad Section *Calcarifera*, however don't be surprised to see this change in the near future, as I don't feel these species belong there due to their unique characteristics. It can be difficult to distinguish between *D. ceraula*, *D. victoriae-reginae* and *D. yeageri* when not in bloom as they have a very similar growth habit. These epiphytes all have somewhat disjointed branching pseudobulbs on mature plants, which become pendent with age. The leaves are not long lived, barely lasting a year. However, the growth is fairly constant throughout the year, with an accelerated rate noticeable in autumn and early spring. These are mountainous plants, which can take spells of cool to cold weather in winter yet still cope with summer heat if adequately shaded.

#### *Dendrobium ceraula* Reichenbach f.

This species has become popular in cultivation under the name of *D. gonzalesii*. Professor Heinrich G. Reichenbach named this species (from white flowered specimens) in *Linnaea* in 1876. The specific



*Dendrobium ceraula*, pinkish-blue form

name means trumpeter or 'horn-blower', referring to the 'circle' formed by the mentum (or 'spur' at the back of the flower). Unfortunately Dr. Eduardo Quisumbing, who described *D. gonzalesii* in 1938, either didn't know about the prior name or was influenced by the type specimen having white blooms. *D. ceraula* is endemic to the Philippines in the southern province of Albay (on the island of Luzon) where it

grows at altitudes above 1300 metres.

Flower colour is extremely variable in this species, with a range of colours from light blue through lilac to shades of pink to white. Different colour forms can be found in the same population. I would suspect that the colour is not genetically stable. A few years ago an outcross was made between a blue and a pink form. Despite a nice capsule, it yielded only one seedling.



*Dendrobium ceraula* (top) and *D. victoriae-reginae* (photo David Titmuss)



*Dendrobium victoriae-reginae*, powder blue form (photo David Titmuss)





*Dendrobium ceraula*, white form



*Dendrobium yeageri*

That's always a worry in a flask, as it may end up being a "floater" from a previous flasking effort. I grew this on, and was most surprised when it flowered with pristine white blooms. The basal half of the labellum always has six or seven thin parallel lines deep purple in colour. Individual flowers are 30-40mm in diameter and can last for up to six weeks. Flowering can occur at any time, with a main flush in late spring and summer.

#### *Dendrobium victoriae-reginae* Loher

Augustus Loher named this regal species in the *Gardeners' Chronicle* in 1897. The plant was named to commemorate Queen Victoria, who was celebrating her 50th anniversary as Queen of England. This species is invariably incorrectly spelt, often with the 'e's left out! *D. victoriae-reginae* is fairly widespread in the Philippines, being found in mossy cloud forests above 1400 metres on a number of islands, including Luzon, Mindoro, Negros, Camiguin and Mindanao. It grows as an epiphyte in deeply shaded localities where there is plenty of air movement with its roots embedded in damp mosses.

Flower colour ranges from a pale violet to a very deep blue, the later variant being highly sought after in cultivation. The centre of the flower is often pale, with the colour intensifying towards the tips of the segments. On very rare occasions, there have been albino forms found, with pure white flowers. Despite having similar sized blooms and flowering habits, it is easily distinguished from *D. ceraula* by the short straight mentum at the back of the flower. This species is well known and has been in cultivation for many years, with vast numbers being raised from seed in search for the ultimate black-blue flower.

#### *Dendrobium yeageri*

Ames & Quisumbing

Professor Oakes Ames and Dr. Eduardo Quisumbing named this very rare species in 1933, in the *Philippine Journal of Science*. It was named after Dr. C. H. Yeager, a member of the party that discovered this species and collected the type specimens in 1932. Plants are often sold as *D. yeageri* by nurseries in the Philippines, but these invariably bloom to be *D. victoriae-reginae*. This has happened to me on numerous occasions! Ironically, one of the plants I imported as "*D. gonzalesii*", bloomed to be the true *D. yeageri* – which is still the only plant of this taxon I have seen. *D. yeageri* is endemic to the Philippines and reportedly grows as an epiphyte at elevations of over 1000 metres, in the provinces of Benguet and Mountain Province on the island of Luzon.

*D. yeageri* has a bluish-purple flower which, unlike *D. victoriae-reginae*, is darkest in the centre of the flower, becoming paler (almost to white) towards the tips of the petals and sepals. The labellum of *D.*





*Dendrobium victoriae-reginae*, dark blue form

*yeageri* also lacks the stripes found in both *D. victoriae-reginae* and *D. ceraula*. The blooms are also smaller, being 25-30mm in diameter, with a short mentum. Unfortunately all efforts to 'self' this plant have been unsuccessful to date.

#### Cultivation

My plants of these three taxa grow in my shadehouse under a double layer of 70% knitted shade cloth. Here they experience winter minimums of  $-1^{\circ}\text{C}$  (for short duration) and summer maximums over  $40^{\circ}\text{C}$  at times. This is a bit deceptive, as the winter minimums (which last only a few hours) are generally followed by sunny days, which are frequently between  $15-20^{\circ}\text{C}$ . In summer the plants must be kept moist (and shaded), with good air circulation and high humidity. My plants suffer more stress through the summer than they do in the winter. I use plastic pots, hang the plants up due to their pendent habit, and grow them in live sphagnum moss and keep the plants moist. Plants are repotted every two years into fresh moss, either in autumn or early spring. I don't fertilise these plants as it invariably upsets the sphagnum moss.

Thanks to Jim Cootes for sharing his vast knowledge of Philippine orchids, and for letting me know the status of *Dendrobium ceraula*, even if it was after my book *Tropical Orchids of Southeast Asia* was published! All plants owned and photographed by the author except where credited.

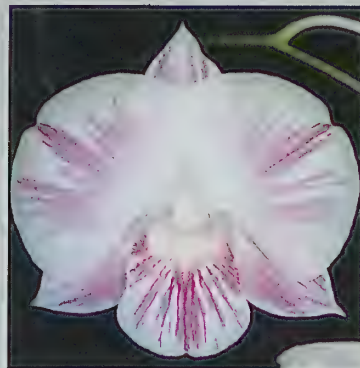
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## Vale – David Littman (1931-2000)

David August Littman was born on the 15th January 1931 in Brisbane. At school he was an avid sportsman, involved in cricket, swimming, a range of athletic events and was a schoolboy-boxing champion. Following his school years, David was also involved in singing, ballroom dancing, photography, fishing and the breeding of fancy pigeons.

Regarding his working life, which started when David left school in 1946 to join his father's business of wholesale marketing of bananas. With his father's passing in 1955, he took over the business to become the State's largest banana marketing outlet. For many of us, David will be remembered for his contribution to orchid growing and breeding over the past 20 years.

His collection of hardcane dendrobiums and *Cattleya* hybrids was recognised as one of the finest in Australia. He won many prizes and awards for his plants. David enjoyed developing new hybrid lines and registered many crosses with the Royal Horticultural Society – often with the prefix Dal's, (after his initials). David (and wife Bette) were made life members of the Queensland Orchid Society (QOS) a number of years ago.



*Dendrobium* Dal's Stunner 'David L'

Just a fortnight before his passing on 27th April 2000, David was excited about a new seedling he had bloomed for the first time. It was a unique plant of *Dendrobium* Dal's Stunner 'David L', with white segments overlaid with faint mauve stripes. This, and many other plants he produced will help perpetuate his memory. Our sympathy goes to wife Bette, son David, daughter Deborah and extended families.

Allan Alvis  
President QOS



## Orchids That Have Owned Me – Part 1



# Native Orchids

Text and photos by Alan Stephenson

*Dendrobium speciosum*

**T**his is a tale of numerous orchid species, both native and exotic, which I have obtained since I became involved in this never ending but enjoyable orchid madness. I have at this time other species but it is the following species, which for some reason have attracted my interest more than others. The attraction may say more about the owner than the species involved.

*Dendrobium speciosum* is the first and how could one not think highly of it, as the local bush is still well supplied with a variety of different clones, both in colour and actual physical appearance. The first plant I ever owned was mounted on a large board but since then all have been pot grown, as they are much easier to control as far as transporting and dividing are concerned. Fifty plus flowers per inflorescence varying from white to a rich butter yellow makes a well-flowered plant into a magnificent spectacle. Locally prevalent on rocks but in a few places they are seen either in *Ficus* trees or the occasional *Casuarina*. This species is commonly called a "Rock Lily", a name I personally object to most vehemently, as the majority of those who use the term know the correct name.

However I do not object to the term "Orange Blossom Orchid" when used in reference to *Sarcophilus falcatus*, because the word "orchid" is used in the descrip-



*Sarcophilus falcatus*



tion. To my mind, it is one of our botanical treasures. The shape, colour and surface texture combine to produce a classic flower. The standard form, found in remnant rainforest on the NSW south coast varies from 20mm to over 40mm but always has white to cream blooms with strong red/purple striations over bright yellow inside the sidelobes of the labelum. Usually found on trees but south of Nowra several plants still survive on rocks hidden among the felt fern, *Pyrrhosia rupestris*.

*Dendrobium kingianum* 'Albert West' was my first "kingie" and is still a favourite, although larger flowers with more intense colour have been line bred in recent years. It reminds me of Kodak film, as it is the standard by which all others are judged. Debate continues as to where this clone originated, but it is probably one of the southeast Queensland forms. These days it is only a mid-sized clone but the shape and colour are good and never vary.

Who could fail to be impressed by either a single plant or colony of *Diuris*, the "Donkey Orchids"? *Diuris aurea*, (the local form), is a robust example supporting up to five golden yellow flowers measuring 35mm x 65mm. Some plants are well over one metre tall and recently one of the better colonies has succumbed to an access road for the construction of a sporting



*Dendrobium kingianum* 'Albert West'



*Diuris aurea*



*Pterostylis pulchella*



*Diuris* sp. aff. *punctata* (Ulladulla)



complex. Another in the genus is the lilac/mauve *Diuris punctata*, although the five local forms should probably be best listed as *Diuris* sp. aff. *punctata*. All are different in morphology (although similarities are evident) and only one of the five sites can boast more than a couple of dozen plants. Some groups are struggling in very harsh conditions beside busy roads, but at least the largest group is protected in a reserve.

*Caleana major* is the only plant I do not have at home, as these are best left in the wild. Sadly, it is virtually impossible to maintain for any length of time in cultivation. The amazing dark red reversed flowers have the profile of a duck in flight, hence the "Flying Duck Orchid". I conducted what I thought was an intensive search for this species for some time before they were pointed out to me. A friend, Erhard Husted and I were out photographing one day and he saw several colonies among some rocks. Since then I have tripped over *Caleana major* in so many sites, I now wonder how I missed it for so long. There is no substitute for experienced eyes.

The rare Greenhood, *Pterostylis pulchella* is a recent find for me. Until last year I had not seen this orchid *in situ*. It has only been located at the base of three waterfalls in the Illawarra and Southern Tablelands of New South Wales. Now it



*Caleana major*

can be considered to be in my back yard. Last year I said to my friend Craig Stuckey, who accompanies me on my orchid searches, "we must have a look at that area next year as we will almost certainly find something", and we did. We found *Pterostylis pulchella* in its typical

habitat, in moss on rocks beside a waterfall. It is one of the cauline group and I was captivated by it immediately. It is a most attractive orchid, with a white flower with broad green stripes and red/brown markings on the sinus and galea. It ranks with the aptly named *P. grandiflora* in beauty. Approximately 50 plants were seen at this site and thirty of these were in one colony, perched on the edge of a 70-metre cliff. The bush near the creek was dripping with *Sarcochilus falcatus*, *S. olivaceus*, *Dockrillia pugioniformis* and *Bulbophyllum exiguum*. The latter species was in flower. The following weekend at a nearby location we found several more plants, but these were in a dryer creek with no other orchids evident.

The last native on my list is the spiraled beauty of *Spiranthes australis*. Locally, it blooms from late January to the end of March. I was presented with a plant by the owner of a property near Moruya, (thanks Alex), about two hours drive south of Nowra. A small colony was thriving in the direct line of the overflow of a rainwater tank. Although quite small, the flowers when viewed close-up are a striking pink with an attractive ruffled labellum. Although the flowers are normally in a tight spiral, I encountered one plant which had the appearance of a toothbrush, rather than the typical "ladies tresses", which gives the species its common name.

Next issue I will talk about some of my favourite exotic species. ■

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# Rare auction

## Australian Orchids

By R. D. FitzGerald

*Two parts, Vol 2 Part 1 (complete)  
and Vol 2 Part 2 (one plate missing)*

This important and rare historical work will be auctioned at the September Meeting of the Orchid Society of New South Wales, on behalf of the Eastwood Orchid Circle. (25th September 2000 at Five Dock Bowling Club starting at 8pm). If the reserve is not met, the plates (suitable for mounting) will be sold individually.

For more information please contact Bernadette Williams at 02 9807 4662 or by email [bvwilliams@one.net.au](mailto:bvwilliams@one.net.au)



*Spiranthes australis*





View from Pojo to the Cloud Forest

# Bolivia – a fascinating country for orchid lovers

Text and photos Frans Beukelman

During May 1999 Gerald McCraith (Director of the Australian Orchid Foundation) and I spent two weeks orchid hunting in Bolivia. Bolivia, the smallest and arguably the poorest country in South America, has some of the world's most fascinating scenery. You can experience plains encrusted with salt, coloured lakes covered with flamingos and bubbling sulphur geysers, as well as cloud covered mountains full of orchids. This landlocked nation in the heart of the South American continent has been a mineral storehouse since Spanish times and remains an important producer of tin, oil and natural gas. The loss to Chile, a century ago, of direct access to the Pacific Ocean still provides bitterness and annual demonstrations. The population of Bolivia is almost 9 million, more than half are Indian. The

Quechuas and the Aymaras numerically dominate the most Indian part of the population of any South American country, but these self-sufficient farmers are not full participants in the main stream of the nation. With more than 180 attempted coups since independence in 1825, Bolivia deals continually with political instability.

## Geography

The country covers an area of 1,100,000 square kilometres, 60% is tropical lowland and 40% is dominated by the Andes Mountains. The Andes consist of two parallel ranges with an altiplano (high plateau) at an altitude of 4000m in between. The plain is 100km wide and

1000km long, in the north it borders the lake Titicaca and in the south an area with salt lakes and deserts. The western range, Cordillera Occidental, consists of dry and desert areas, with a high degree of volcanic activity. Along the border of Chile we find many volcanoes, the highest is Sajama at 6700m. The eastern range, Cordillera Oriental, consist of high mountains with snow covered peaks; in between the mountains of the Cordillera Oriental are the subtropical valleys with high



Tree covered in orchids (including *Pleurothallis* and *Epidendrum*) and bromeliads.



rainfall and lots of vegetation, known as Yungas. In the east of the country you find the tropical lowland, Llanos Orientales, which is part of the Amazon region.

There is the potential to find orchids in many of the forests of Bolivia. I will now discuss some of the areas we visited, with details of the orchids that we found. As many were not in bloom, positive identification was difficult.

### Cochabamba Province

From Lima, Peru, we flew to Cochabamba with the local airline DAB. Our first excursion brought us to the village of Villa Tunari, situated on the river Chapare – a tributary of the Amazon river system. This was 160km to the northeast of Cochabamba. To get to Villa Tunari we crossed the Cordillera de Cochabamba. On our left we had a magnificent view over a green valley towards a mountain of 5035m. The road climbed to an altitude of 4000m. After the pass we gradually descended towards the Amazon region where Villa Tunari is situated.

The warm and humid air from this tropical region is forced up the mountains and deposits plenty of rain, thus creating ideal conditions for a variety of orchids. The annual rainfall in this area amounts to 5000mm. We stopped a couple of times and found *Odontoglossum tetraplasium*, *Oncidium aureum*, *Masdevallia chaparensis*, *Cochleanthes amazonica*, *Neodryas herzogii* plus members of the following gen-



*Maxillaria* species related to *M. nutans*.



*Pleurothallis* sp.



Welcome to Hotel Lucerito with Frans (left) and Gerald.

era; *Telipogon*, *Sievekingia*, *Bletia*, *Pleurothallis*, *Lepanthes*, *Epidendrum* and *Maxillaria*.

### Villa Tunari

The lowland along the Chapare River was in the past the largest coca growing area in Bolivia. In 1994 70,000 tons of

coca leaves were produced for the manufacture of cocaine. However, in recent years the Government, under pressure of the USA, suppressed the production. The farmers are forced to grow bananas and citrus instead of coca leaves, giving much lower return. As compensation, roads are being built and electricity is being provided. There are several checkpoints on the roads to control the transport of coca leaves.

During our stay in Villa Tunari, we visited a prohibited coca growing area, where the coca trees had been removed. Among the citrus trees we found several orchid genera including *Jacquinella*, *Notylia*, *Ornithocephalus*, *Rodriguezia*, *Trichocentrum*, *Brassia*, *Oncidium*, *Maxillaria* (incl. *M. cuzcoensis*) and *Gongora*.

### Road to Cochabamba

On the return trip to Cochabamba, going up the mountain, we made several stops looking for orchids. The first stop was at an altitude of approx. 1100m where we found *Masdevallia pumila* as well as *Sigmatostalix*, *Trisetella*, *Kefersteinia*, *Cochleanthes*, *Telipogon* and *Dichea*. At the next stop at 1500m (106

km from Cochabamba) on a steep slope on the side of the road, we found *Houlletia* and *Schlimia* species growing in thick moss.

We were then in thick cloud for the next 30km, with visibility reduced to about 50 metres and it was also raining very heavy. We stopped at 2000m (80km from



Cochabamba) and saw an abundance of orchids. Including *Telipogon*, *Barbosella*, *Lepanthes*, *Oncidium*, *Trichosalpinx*, *Epidendrum ciliare*, *Masdevallia picturata*, *M. minuta* and a *Cyrtorchilum* species in flower. Our next stop at 2000/2500m (76 km from Cochabamba), greeted us with the sight of two different

*Telipogon* species in bloom, as well as *Oncidium* and *Pleurothallis* species. At the final stop, after entering the road to an oil exploration area, we discovered many delightful miniatures including *Platystele*, *Pleurothallis*, *Trichosalpinx*, *Scelochilus*, *Masdevallia* and *Telipogon* species.

**Road to Santa Cruz**

After spending the night in Cochabamba we took the old road to Santa Cruz, some 360 km away. The new road to Santa Cruz is the one via

Villa Tunari. We were told that along this road we would find orchids near a small village called Pojo. The first 140 km along this road were disappointing, no trees, just bare mountains. Many trucks loading bags of potatoes then blocked the road and we had to wait several hours before we could

continue our journey. We found the village of Pojo down at the bottom of the valley and had lunch, but there was no place where we could spend the night. Returning to the main road, it took quite some effort to persuade the owner of the only restaurant to make some sleeping facilities avail-

able. The next day we found just above Pojo, a mountainous area covered in heavy clouds with an abundance of orchids at about 2300m. We discovered the following orchids species: *Masdevallia yungasensis*, *Oncidium phalaenopsis*, *Neodryas herzogii* plus members of the genera *Telipogon*, *Scelochilus*, *Kefersteinia*, *Lepanthes*, *Odontoglossum*, *Cyrtorchilum* and *Pleurothallis*.

**La Paz and Yungas**

After a day of sight-seeing in Cochabamba, we flew to La Paz – the capital of Bolivia,



*Telipogon* sp.



*Odontoglossum subuligerum*



*Odontoglossum subuligerum* (pale form)



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which is built in a valley on the edge of the plain. The airport "El Alto" is at an altitude of 4000m and it was very cold when we arrived. The temperature drops to below freezing at night. The following day we left for the Yungas area, leaving the hotel we followed the top edge of the valley and had a beautiful view of La Paz down below. To get to Yungas we had to cross the La Cumbra pass (4650m) from there the road descends to the Amazon lowland.

After 46 km the descending road splits in two: Yungas-Sur (Chulumani) and Yungas-Nor (Coroico). We took the road to Chulumani. The valleys in the Yungas are extremely steep and the roads are curved and narrow. On the slopes lots of coca trees are grown, they are visible everywhere and have obviously not been eradicated in the Yungas. We were told that the coca leaves produced in the Yungas are of better quality than those produced around Villa Tunari, sweeter, but not suitable for cocaine production.

Halfway towards Chulumani we observed the following orchid genera along the road at about 1700m: *Chondrorhyncha*, *Kefersteinia*, *Neodryas*, *Xylobium*, *Maxillaria*, *Oncidium*, *Pleurothallis* and *Stelis*.

After lunch in Chulumani, where we visited a local orchid grower, we continued our journey via Coripata to Coroico (1700m) on a very bad road. The following day we climbed a mountain above Hotel Esmeralda for several hours in thick fog and discovered the following orchid species at an altitude of 2000m: *Paphinia*, *Houlletia*, *Altensteinia*, *Zygopetalum*, *Pleurothallis*, *Maxillaria*, *Oncidium* and *Epidendrum*.

The road from Coroico back to La Paz is only 100km, but is very dangerous as it follows steep valleys covered in fog and is



*Telipogon* sp.

narrow with sharp curves. The road is so narrow that it requires you to stop when passing oncoming lorries. Many accidents occur and several trucks (and their drivers) have ended up at the bottom of the valley. To reduce accidents, a one-way traffic system had just been introduced, with traffic

from Coroico to La Paz allowed from 5pm to 5am and traffic in the opposite direction from La Paz to Coroico from 8am till 3pm.

Thereby we had to wait till 5pm before we were allowed to travel back to La Paz and we were not alone, a huge convoy of trucks and cars was queuing up. We managed to be the first to start the trip back.

This road is very spectacular, passing through very dense rainforest, with steep valleys on the one side of the road, many waterfalls and all the times in a dense fog. There must be plenty of orchids along this road, but unfortunately we were not able to stop, as we had to travel at high speed to keep ahead of the pack and to reach La Paz before darkness.

There are many more interesting areas to visit in Bolivia, such as the Zongo valley with glaciers and views of the high moun-

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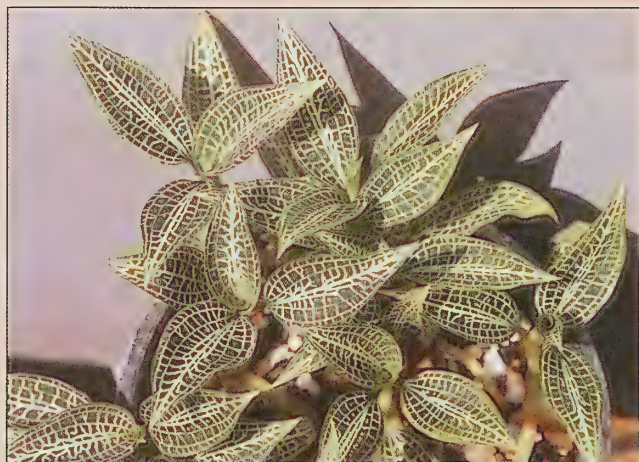
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# Goodyera hispida

Ian Walters



*Goodyera*; a genus of about 25 species found on all continents except Africa. Most of the species are somewhat insignificant green leafed, ground dwelling or lithophytic plants, with a rhizome that creeps over the leafmould and forest floor litter.

Generally classed as Jewel Orchids, several species are known for their variegated or veined foliage, and are known to those collectors who specialise in Jewel Orchids.

*Goodyera hispida* is such a species, prized for its very beautiful foliage of emerald green, slightly flushed pink, with prominent silver veins and reticulation. The flowers are tiny, green, tipped white. Each leaf grows to 7cm long, by 2.5cm wide, with a resulting rosette of about 15cm, and in a clump, presents a most attractive plant.

As these plants are creepers, their rhizome should never be buried in the potting mix, but placed so that it sits on top. A suitable mix to grow them in must be well drained, but holding enough mois-

ture so that roots do not dry out. Several mixes could be used, from a coarse sandy gravel with leafmould or fine bark, to shredded sphagnum moss mixed with shredded isolite, polystyrene foam, the latter to keep the sphagnum moss a little more open.

The beautiful silver veining on the green background indicates a dweller of the very shady forest or jungle. It takes advantage of a niche, a darker place, where normal sunloving plants leave room for others. So a shady place in the bushhouse is needed, in with *Phalaenopsis* and mottled leaf *Paphiopedilums*, out of reach of slugs and snails, where it is cool and damp.

*Goodyera hispida* is native to India and seems to be tolerant of our tropical climate when grown in a shady position in a well drained media that keeps the roots damp, but not wet. A lovely species, a well grown plant would be a Jewel in any orchid grower's crown. Photo I. Walters, Burleigh Park, Thuringowa, Qld 4815

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# Automatic Sprinklers versus Hand Watering

by Brian Milligan

All commercial growers and many large-scale hobby growers use automatic sprinklers to water their orchids and many smaller growers therefore believe that they should do the same as soon as they can afford the cost. But there are pros and cons to both systems, which you should consider before you install an automated watering system.

The obvious advantage of a fully automated sprinkler system is that you can program the computer and theoretically take off for a round-Australia holiday. Unfortunately, it's not quite as simple as that. The optimal frequency of watering is highly dependent on the weather, even when the plants are grown under cover. They become dry very rapidly under warm, windy conditions and may need watering two or three times as frequently under such conditions as they will if the weather is cold and windless. Maybe this isn't so important during the summer months but orchids greatly resent being continually wet during cold, wintry weather, so an automated system with a simple timer is not ideal, especially in winter.

Another disadvantage of sprinkler systems is the difficulty of ensuring even water distribution over all the plants. It's possible to achieve this by judicious placement of the sprinklers but much water is still lost on paths and beyond the boundaries of the growing area. Even then, complete coverage may not be achieved if a strong wind blows from a particular direction.

Hand watering, for preference using a water-breaker spray head (e.g. a Dramm head), permits each plant to be watered individually and for the water to be directed both over and beneath the leaves, thus ensuring that the compost is thoroughly wet and both the upper and lower surfaces of the leaves are wet (thus, minimising the likelihood of infestation by spider mite, commonly referred to as red spider, which prefer the drier conditions beneath the leaves). Sprinkler systems are seldom effective with large-leaved orchids like lycastes or anguloas, because their leaves very effectively shed most of the water that falls on them beyond the confines of the pot. Hand watering is also advantageous at flowering time, because it permits the orchid to be watered without wetting the flowers. Many *Cymbidium* flowers develop unsightly

fungal spots if their flowers remain wet for any length of time and so it is best not to water them overhead, especially on still days when the water may take hours to evaporate.

From the above arguments you can see that I strongly favour hand watering, where possible. Yes, it takes quite a time to do but at the same time you can also note those orchid spikes that need staking and detect any insect pests or diseases - just remember to take action when you have finished watering. I have an automated sprinkler system, but use it solely beneath the benches in my glasshouse and *Masdevallia* shadehouse to maintain a continual high level of humidity.

So why do professional growers use automated sprinkler systems? Solely because it would be hopelessly uneconomic to water all their orchids by hand. Large nurseries take most of the night to water, section by section; they usually

water at night, especially in summer, because less water is lost by evaporation then and the mains water pressure is higher at that time.

The big advantage of an automated sprinkler system for the hobbyist comes into play if he or she takes frequent or extended holidays. Fortunately I have several good orchid-growing friends who water my orchids when we go on holidays, a strategy that works well if you are able to reciprocate when they go away - the only problem that then arises is when you want to go away together or at the same time! If you ask someone to water your orchids when you go away, try to persuade an orchid grower to do the job. Others with little experience of orchids tend to over-water or else do it each weekend regardless of the weather. ■

Brian Milligan

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## Attention AOR readers and Orchid Societies

*"This and That" is a regular feature of the Australian Orchid Review and readers and Orchid Societies are invited to contribute any small news items of interest to Orchid lovers.*

*The deadline for items can be found on page 3.*

*Address all correspondence to the Editor. "This and That", Australian Orchid Review, 14 McGill Street, Lewisham, NSW 2049.*

## Visit by Ross Tucker

The West Gippsland Orchid Club is hosting a special meeting on Sunday, August 13th to allow orchid growers the opportunity to hear Ross speak. Tucker Orchids is a New Zealand nursery which grows a wide range of genera and Ross will present a slide lecture covering many of them. The meeting will be at the Mawarra Centre, Percy St (off Albert St), Warragul and orchid growers are invited to attend.

Ross will also be speaking at the COSV meeting on Tuesday, August 8th at the Waverley Youth Centre, Miller Cres, Mount Waverley at 8pm. His topic is cymbidiums in NZ. Enquiries: Fay Allison, Phone 03 5625 2170.

## The 10th Annual Northern Territory Orchid Spectacular

The Show is being staged on the weekend of 16th and 17th September 2000 at the Marrara Indoor Stadium in Darwin.

The Rotary Club of Darwin Sunrise and the Litchfield Orchid Club have been busy at work preparing for this popular event which promises to be bigger and better than every before. Orchid growers and exhibitors are looking forward to a bloomin' good time. Large attendances are expected including interstate visitors who are warmly welcomed.

For the public there will be experts to guide you through many queries and to demonstrate how to pot and re-pot orchids. Orchids will be available for purchase from areas set apart for retail sales.

The orchid competition is open to everyone and is free to enter. The prizes are:

Grand Champion \$500  
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As well as prize monies for the other 55 classes within the competition.

Orchid clubs and commercial growers will be enthusiastically competing with their displays.

In addition there will be displays of palms, cycads, gerbera, bonsai, bat plants, rare fruits and gourmet native food. Devonshire teas will be on sale for those in need of refreshments.

There will also be the chance to win our lucky door prize donated by Kakadu Air, which consists of a flight over Kakadu for two and a river cruise for two on the Guluyambi.

## 2000 Annual Spring Orchid Show

The North Brisbane Orchid Society Inc. will stage its 2000 Annual Spring Orchid Show in the Auditorium at Brisbane Botanic Gardens, Mt Coot-tha on Saturday 26th and Sunday 27th August 2000.

This is an open show and is open to all members of an approved orchid society with set up prior to 7.30pm on Friday, 25th August.

This year's show once again should provide a spectacular display of both Australian and exotic orchids as well as ferns, bromeliads and foliage plants.

The show will also feature floral art displays. A diverse range of orchid plants from seedlings to flowering plants as well as floral arrangements will be for sale. There will be daily raffles and a weekend raffle. Refreshments will be available during the show.

Potting demonstrations will be conducted throughout the weekend and experts will be present to give advice on general culture.

The opening hours for the show will be from 9.00am to 5.00pm on Saturday and from 9.00am to 4.30pm on Sunday. Presentation of trophies and prizes will be conducted at the conclusion of the show on Sunday – Wayne Burow, Show Secretary.

## Eastern District Orchid Society Spring Show

Eastern District Orchid Society will be holding its Spring Show on Saturday 16th and Sunday 17th September 2000.

Visitors can expect to see a very spectacular display of orchids in bloom in a wide variety of genera. Also featured will be potting demonstrations and cultural advice will be freely available from expert growers within the society.

Floral arrangements will be available for sale at very reasonable prices as well as many plants in flower from our plant sales.

There will be refreshments, daily raffles and lucky door prizes.

The show will be held at Wondall Heights State School, Wondall Road, Manly West Qld. on Saturday 16th September, 8.30am-4.30pm and Sunday, 17th September, 8.30am-3.30pm. Adults \$2.00. Pensioners and children \$1.0.

For further information contact the show captain, Allan Robinson, phone: 07 3396 3192 or show vice captain, John Hutchinson, phone 07 3396 0030.

## 5th Annual OSCOV Summer Show

This will be the 5th year that the Mornington Peninsula Orchid Society has hosted this event in Victoria. It is a chance to see the orchids that flower too late for the early spring shows. The hall is always full of these orchids, featuring *Sarcochilus* and *Masdevallia*. The show is open to the public between 10am to 4pm on Saturday, 18th November. A sausage sizzle at lunch time will again satisfy those hunger pains.

The 1999 show was the second year that we have included miniature displays at this event. It is a chance for exhibitors to display a limited number of orchids on a table top area on boards 50cm x 50cm. Some of these displays are very imaginative. This year we are going to include individual displays by exhibitors. This will please those growers that like to keep their collection of orchids in the one group.

A number of commercial orchid growers from Victoria and interstate have been invited to set up displays and sales areas at the show. A number of free seminars and cultural lectures will take place during the day – Carolin Allen, Hon Secretary, M.P.O.S.

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AOR 037

## LETTER TO EDITOR

Dear Editor,

I would be most grateful if you would consider printing the attached statement in your orchid journal regarding the recent book *Orchid Fever* by Eric Hansen.

We are deeply concerned about a number of the statements in the book that reflect poorly on the reputation of The Royal Botanic Gardens and several of our staff. We are also concerned about the potential effect of the book on the public perception of the importance of CITES.

It would be inappropriate to present a long and detailed rebuttal of the accusations in the book in your publication. But we nevertheless believe that it may be of interest to your readers to have a sense of position of The Royal Botanic Gardens, Kew in respect of these serious allegations.

Thank you for your consideration in this request.

Sincerely

Prof. Peter R Crane FRS

Director

Royal Botanic Gardens, Kew, UK

7 June 2000

## Orchid Fever allegations rejected by Kew

The Royal Botanic Gardens, Kew rejects claims in Eric Hansen's book *Orchid Fever* that the organisation and members of its staff circumvented international conventions relating to the import of endangered plants in 1985. The book contains a number of misleading comments, opinions and serious errors with regard to RBG Kew and CITES which we have taken up with the publishers.

The essence of the allegations, that Kew knowingly or negligently received plants smuggled into the UK by Henry Azadehdel, who was subsequently convicted for the smuggling of endangered species, is denied.

The facts are that, when Azadehdel originally contacted Kew claiming to be a keen orchid grower, there were no initial grounds for concern. However, in August 1985 as soon as suspicions were raised that he might be smuggling orchids, Kew placed the matter in the hands of the proper authorities and Henry Azadehdel was arrested at Heathrow Airport in late 1987. He pleaded guilty and was convicted in 1989 at the Old Bailey, receiving a prison sentence and fine. He subsequently appealed and his sentence was reduced by the Appeal Court because of his financial state and the Court's view that his offence was less serious than the smuggling of ivory or rhino horn from dead animals. These facts are clearly corroborated in the written judgement on appeal.

Kew is very active in supporting CITES (Convention on International Trade in Endangered Species) and is a source of expert witnesses in inspection of material stopped by HM Customs and Excise. Without such experts, CITES and the national enforcement agencies could not function. Kew does not issue CITES permits and never has done.

Assisting with conservation initiatives and encouraging the sustainable use of natural resources is an important part of the mission of the Royal Botanic Gardens, Kew. In this regard we think that the book is misleading to readers in that the author fails to draw any distinction between the scientific collection of a handful of plants for study under the appropriate permits, and the wholesale extraction of hundreds or thousands of plants for economic gain by smugglers — a process which has significantly reduced the wild population of some orchid species.



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<b>ASCOCENDA</b>		(O/U = Originator unknown)
Miami Hot Spot	<i>V. Somthawil</i> x <i>Ascda</i> , <i>Motes Kalahari</i>	Motes
Pander	<i>V. Princess Blue</i> x <i>Ascda</i> , <i>Sauvane</i>	Russell Job
Pink Delight	<i>Ascda</i> , <i>Yip Sum Wan</i> x <i>V. Evelyn Ritter</i>	T.Cox(T.Ritter)
Thai Primrose	<i>Ascda</i> , <i>Duang Porn</i> x <i>V. parviflora</i>	Motes(O/U)
<b>BRASSIDIUM</b>		
Blake Carpenter Brady	<i>Brs. gireoudiana</i> x <i>Onc. powellii</i>	Everglades
<b>BRASSOCATTLEYA</b>		
Campanitas	<i>Bc. Nok Noi</i> x <i>C. aurantiaca</i>	G.Silvera
Cosmo-Labicord	<i>C. labiata</i> x <i>B. cordata</i>	Kokusai
Hawaiian Elation	<i>Bc. Donna Kimura</i> x <i>C. Esbets</i>	Kodama
Hawaiian Monarchy	<i>C. Ruth Gee</i> x <i>Bc. Hawaiian Prince</i>	Kodama
<b>BRASSOLAEIA</b>		
Cucumiller	<i>L. milleri</i> x <i>B. cucullata</i>	S.B.Carter
Martha Miller	<i>L. angereri</i> x <i>B. cordata</i>	Todd Miller(O/U)
<b>BRASSOLAEIOCATTLEYA</b>		
Chan Hsiu Gold	<i>Blc. Chunyeah</i> x <i>Blc. Memoria Ong Wen-Mo</i>	Ching Ruey Orch.
Finland New Dawn	<i>Lc. Dormaniana</i> x <i>Bc. Angel Lace</i>	K.& B.Beale
Guarema	<i>Lc. Pordias</i> x <i>Blc. Roberto Cardoso</i>	S.Barani
Hawaiian Avalanche	<i>Blc. Oconee</i> x <i>Blc. George King</i>	Kodama
Hawaiian Butter Ball	<i>Blc. William Stewart</i> x <i>Blc. Erin Kobayashi</i>	Kodama
Hawaiian Butterfly	<i>Blc. His Light</i> x <i>Blc. Erin Kobayashi</i>	Kodama(Carmela)
Hawaiian Celebrity	<i>Blc. Ronald Hausermann</i> x <i>Blc. Korat Sunset</i>	Kodama(Carmela)
Hawaiian Constellation	<i>Lc. Hyperion</i> x <i>Blc. Star of Bethlehem</i>	Kodama
Hawaiian Fascination	<i>Blc. Spring Dawn</i> x <i>Lc. Memoria Robert Strait</i>	Kodama(Carmela)
Hawaiian Premier	<i>Lc. Persepolis</i> x <i>Blc. Good News</i>	Kodama(Carmela)
Hawaiian Wahine	<i>Lc. Kunta Kinte</i> x <i>Blc. Fred Stewart</i>	Kodama(Carmela)
Hawaiian Wizard	<i>Lc. Memoria Robert Strait</i> x <i>Blc. Hillary Rodham Clinton</i>	Kodama(Carmela)
Instante de Ensueño	<i>Blc. Oconee</i> x <i>B. digbyana</i>	R.Sobrinho
Millennium	<i>Blc. Success Dream</i> x <i>C. Old Whitey</i>	Kokusai(Akira Abe)
Myriam Athie	<i>Blc. Enid Moore</i> x <i>C. Mother Enid</i>	R.Giorchino
Mysterious Beauty	<i>Blc. Erin Kobayashi</i> x <i>Lc. Colorama</i>	M.Hotta
Noble's Carnival	<i>Lc. Alexis Sauer</i> x <i>Blc. Ademair Manarini</i>	S.Barani
Rubia Taina	<i>Blc. Orange Nuggett</i> x <i>Blc. Erin Kobayashi</i>	R.Sobrinho
Shirint Ishikawa	<i>Blc. Julio Barbero</i> x <i>C. Lulu</i>	S.Barani
Sunstate Millennium	<i>Lc. Memoria Sangah Chit</i> x <i>Blc. Oconee</i>	B.N.Jones

NAME	PARENTAGE	REGISTERED BY
<b>BURRAGEARA</b>		
Lene's Honolulu	<i>Milit. Honolulu</i> x <i>Wils. Lene's Surprise</i>	R.Stevens(George Black)
<b>CALANTHE</b>		
Ronez Point	<i>Cal. Saint Brelade</i> x <i>Cal. Gorey</i>	E.Young O.F.
* <b>CALASSODIA</b> (Calsd.)		
Nossa	<i>Calda. latifolia</i> x $\pm$ <i>Gloss. major</i> $\dagger$	H.Beyrle
<b>CATAMODES</b>		
Eniina Watouy	<i>Cism. Rebecca Northen</i> x <i>Morm. badium</i>	T.Kishino(Universal Orch.)
<b>CATTLEYA</b>		
Big Leopard	<i>C. Measuresiana</i> x <i>C. Little Leopard</i>	H.Rohrl
Borecka's Brilliant	<i>C. bicolor</i> x <i>C. Barbara Kirch</i>	B.Borecka Salta
Chocolate Percy	<i>C. Chocolate Drop</i> x <i>C. pericalliana</i>	S.B.Carter
Finland Flamingo	<i>C. Measuresiana</i> x <i>C. warneri</i>	K.& B.Beale
Grown Up	<i>C. Small Fry</i> x <i>C. labiata</i>	Wilk Orch.
Memoria Gladys Rogers	<i>C. Horace</i> x <i>C. Heather Rose</i>	R.& R.Midgett(J.Passander)
Pure Snow	<i>C. Small Fry</i> x <i>C. Princess Bells</i>	Wilk Orch.
River City	<i>C. Roman Silver</i> x <i>C. Old Whitey</i>	K.Ichikawa(O/U)
Rosa Rubi	<i>C. Helene Garcia</i> x <i>C. pericalliana</i>	G.Silvera
<b>COMPARETTIA</b>		
Petite Carrot	<i>Comp. speciosa</i> x <i>Comp. ignea</i> $\dagger$	T.Kuroyanagi
<b>CYCNODES</b>		
Jeri's Dragon	<i>Cyc. chlorochilon</i> x <i>Morm. frymirei</i>	F.Clarke(JEM)
<b>CYMBIDIUM</b>		
Chocarunta	<i>Cym. Choc</i> x <i>Cym. Arunta</i>	Tom Burian Orch.
Choc-Valley	<i>Cym. Chocolada</i> x <i>Cym. White Valley</i>	Tom Burian Orch.
Devon Jack	<i>Cym. Jack Hudlow</i> x <i>Cym. devonianum</i>	B.Chan(Geyserland)
Discount Ruby	<i>Cym. Tarawera Pepper</i> x <i>Cym. Ruby Eyes</i>	R.Dix
Fence	<i>Cym. Yovile Hill</i> x <i>Cym. Red Beauty</i>	R.Dix
Heinjus	<i>Cym. Laura Arda</i> x <i>Cym. White Valley</i>	Tom Burian Orch.
Laura Valine	<i>Cym. Longueville</i> x <i>Cym. Dag</i>	G.Hatfield
Marquesa Rose	<i>Cym. Lancashire Rose</i> x <i>Cym. Marquesa Prescott</i>	(Rowland Collection)
Memoria Alice Hatfield	<i>Cym. Radiant Harry</i> x <i>Cym. devonianum</i>	K.Black
Mountain Amethyst	<i>Cym. Fascination</i> x <i>Cym. Huckleberry Mountain</i>	G.Hatfield(Geyserland)
Pure Cloud	<i>Cym. Mini Dream</i> x <i>Cym. Summer Clouds</i>	Trowena(J.Woodward)
Sensei Red	<i>Cym. Kiwi Guru</i> x <i>Cym. James Tova</i>	K.Black
Spring Red	<i>Cym. Lady Spring</i> x <i>Cym. Red Dream</i>	R.Dix
Spring Stock	<i>Cym. Lady Spring</i> x <i>Cym. Yovile Tapestry</i>	R.Dix
Tiger Island	<i>Cym. Red Beauty</i> x <i>Cym. Tamatea</i>	Trowena(J.Woodward)
Wyanga Doll	<i>Cym. Wyanga</i> x <i>Cym. Dolly</i>	K.Black
<b>DEGARMOARA</b>		
Golden Aztec	<i>Mfssa. Aztec</i> x <i>Odm. Golden Filigree</i>	H.Rohrl
<b>DENDROBIUM</b>		
Akiko Pink	<i>Den. Singapore White</i> x <i>Den. Ekapol</i>	Orchids Station(SGP) (Neo Tuan Hong)



NAME	PARENTAGE	REGISTERED BY
<b>DENDROBIUM (continued)</b>		
Avilda	Den. Spellbound x Den. Hisako Haraguchi	E. Rosario(O/U)
Boonmee Noi Omrinsin	Den. Diane Sidham x Den. Dorado Deb	J. Grezaffi
Boonyoung Dang Limpongsang	Den. Karen Grezaffi x Den. Darcie Mikami	J. Grezaffi
Canary Gem	Den. Hamachidori x Den. Reiko Beauty	J. Yamamoto
Carlingford	Den. Brolga x Den. Visheen	N. Mitchell
Dreamtime	Den. Suzanne x Den. Vivid	J. Walsh(K-Russell)
Fancy Angel	Den. Upin Red x Den. Cassiope	J. Yamamoto
Fancy Dance	Den. Holy Night x Den. Line Dance	J. Yamamoto
Glorious Night	Den. Tropical Picture x Den. Fantasia	J. Yamamoto
Happy Crown	Den. Fantasia x Den. Pink Rabbit	J. Yamamoto
Happy Honey	Den. Happy Lady x Den. Japanese Dream	J. Yamamoto
Happy Musical	Den. Pink Rabbit x Den. Kumiko Angel	J. Yamamoto
Harmony Angel	Den. Cassiope x Den. Fantasia	J. Yamamoto
Harmony Glow	Den. Gyokuhai x Den. Pink Fantasia	J. Yamamoto
Harmony Queen	Den. Fancy Gem x Den. Christina	J. Yamamoto
Junko Pink	Den. White Fairy x Den. Ekapol	Orchids Station(SGP)
Love Dream	Den. Matterhorn x Den. Sailor Boy	(Neo Tuan Hong)
Love Memory	Den. White Rabbit x Den. Sachi	J. Yamamoto
Lucky Doll	Den. Pink Doll x Den. Lucky Girl	J. Yamamoto
Magic Charm	Den. Mountain Magic x Den. bracteosum †	J. Yamamoto
Masako Takl	Den. Helawa Beauty x Den. Lois Anderson	Mountain
Meiho Toy	Den. Memoria Toye x Den. Meioho	Orchids Station(SGP)
Memoria Comet	Den. New Comet x Den. Memoria Toye	(Chao Praya Orch.)
Musical Star	Den. Star Song x Den. Bonanza	J. Yamamoto
My Honey	Den. Fantasia x Den. Love Call	J. Yamamoto
Pink Diamond	Den. Pink Doll x Den. Bonanza	J. Yamamoto
Silky Angel	Den. Yukidaruma x Den. Silky White	J. Yamamoto
Sunny Girl	Den. Lucky Girl x Den. Sunny Gold	J. Yamamoto
Super Chance	Den. Utohome x Den. Fancy Gem	J. Yamamoto
Super Dream	Den. Fantasia x Den. Christina	J. Yamamoto
Tipapa Fah Gulyawanit	Den. Paula Grezaffi x Den. Anna Bibus	J. Grezaffi
Victorian Stripe	Den. Victorian Flare x Den. Zip	W. Turville
Winter Dream	Den. Super Crown x Den. Red Emperor	J. Yamamoto
<b>DEVEREUXARA</b>		
Alice Motes	Phal. Ponce es Ponce x Ascdia. Truman Motes	Motes
<b>DORTAENOPSIS</b>		
Chingruey's Rose	Dtps. Murray Spencer x Dtps. King Shiang's Rose	Ching Ruy Orch.
Cotil Point	Dtps. Elizabeth Castle x Phal. Beauport	E. Young O.F.
Debbie Spell	Phal. Golden Bells x Dtps. Orglade's Space Base	H.P.Norton
Fusheng's Diamonds	Phal. Ruy Lih Stripes x Dtps. Sun Jye Diamond	Fu-Sheng Huang
Ho's Pulcherot	Dor. pulcherima x Phal. Zauberot	Tin-Fan Ho(O/U)
Ho's Whispering Love	Dtps. Ho's Pulcherot x Dor. pulcherima	Tin-Fan Ho
Joey Spell	Phal. Swamp Fox x Dtps. Neopolis	H.P.Norton
Passionate Promises	Phal. Passionate Kisses x Dtps. Soft Kiss	J. Klehm(Stones River)
Scarlet in Snow	Dtps. Tenny Sweetgirl x Dtps. Mount Lip	Ming-Rong Tsay
Taisuco Bobbie	Dtps. Taisuco Firebird x Phal. Taisuco Roseherz	Taisuco
Taisuco Princess	Dtps. Taisuco Candystripe x Dtps. Minho Princess	Sedona(O/U)

NAME	PARENTAGE	REGISTERED BY
<b>*ELYTHODIA (Etha.)</b>		
Andrea	Gloss. major x † Etha. emarginata †	H. Beyle
<b>EPENDRUM</b>		
Prouette	Epi. conopseum x Epi. centradenium	Dogashima
<b>LAELOCAATTLEYA</b>		
Chan Hsiu Jewel	C. Moscombe x Lc. Waydora	Ching Ruy Orch.
Doktor Renate Koecher	Lc. Jeannie x C. amethystoglossa	D. Flockerzi
Fenland Fanfare	Lc. Rojo x C. intermedia	K. & B. Beale
Hawaiian Grandeur	Lc. Lake Casitas x C. Angelwalker	Kodama(Carmela)
Hawaiian Lovely	Lc. Persepolis x Lc. Memoria Robert Strait	Kodama(Carmela)
Hawaiian Wish	Lc. Zuiho x Lc. Lorraine Souto	Kodama
Japan Sword	Lc. Zuiho x C. Horace	YNakahara
Kathe Linden	C. Tango x Lc. Gypsy Fire	ILinden(J.Miskimens)
Little Big Man	Lc. Mini Purple x Lc. Kalamia	B.N. Jones
Memoria Teresa	Lc. Kalamia x Lc. Bethune	B.N. Jones
Mola Kuna	C. dowlana x Lc. Domino	G. Silvera
Pordias	C. Portia x Lc. José Dias Castro	S. Barani(G. Suzuki)
Pumiaurant	L. purula x C. aurantiaca	S. Barani(O/U)
Rudak	Lc. Aussie Sunset x C. walkeriana	C. & C. Rudak
Starlight Fantasy	Lc. Gatton Glory x C. Interglossa	M. Hotta
<b>MASDEVALLIA</b>		
Eggnog	Masd. Prince Charming x Masd. Angel Frost	R. Hull
Ina Walker	Masd. pteroglossa x Masd. Inca Prince	A. Barty
Rise and Shine	Masd. Minaret x Masd. racemosa	Mountain
<b>MILTONIA</b>		
Christina Carpenter Rumfelt	Milt. Bluntii x Milt. Honolulu	Everglades
Darth Vader	Milt. Honolulu x Milt. Belvedere	Everglades(Robert Hamilton)
Julie Carpenter Rumfelt	Milt. Minas Gerais x Milt. Seminole Blood	Everglades
Tiffany Carpenter Brady	Milt. Honolulu x Milt. schroederiana	Everglades
<b>MILTONIDIUM</b>		
Yvonne Carpenter Brady	Mtdm. Milton's Candy x Onc. Anthroclus	Everglades
<b>ODONTODA</b>		
Happy Clement	Oda. Happy Fremar x Oda. Saint Clement	R. Stevens(George Black)
Happy Fremar	Oda. Fremar x Oda. Joyful	R. Stevens(George Black)
Theban Sunset	Oda. Susan's Surprise x Oda. Le Nez Point	Trowena(J. Woodward)
Wanganui Flame	Oda. Concade x Oda. Bonfire	Trowena(J. Woodward)
Wössner Corona	Odm. Mont Neron x Oda. Belval	F. Glanz
<b>ODONTOCIDIUM</b>		
Anne Johnson	Odcadm. Tiger Hambühren x Odcadm. Isler's Goldregen	L. McLaughlin
Hay Tiger	Odcadm. Tiger Butter x Odcadm. Hay Tor	R. Stevens(George Black)
Network	Odm. Moselle x Odcadm. Charade Yellow	L. McLaughlin(R. Dugger)
<b>ODONTOGLOSSUM</b>		
Dragon's Lair	Odm. cordatum x Odm. Aspersum	Trowena(J. Woodward)
Sun Dragon	Odm. lindenii x Odm. mirandum †	Trowena(J. Woodward)
Van Diemen's Land	Odm. Aspersum x Odm. hallii	Trowena(J. Woodward)
Wössner Schneekönigin	Odm. Coupe Point x Odm. Mont Failu	F. Glanz



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<b>ODONTORETTIA</b>			<b>PAPHIOPEDILUM (continued)</b>		
Uschi	Odrm. Stamfordiense x <i>Comp. speciosa</i>	H.Rohrl	Pat Hart		
<b>ONCIDIUM</b>			Perpetual Motion	<i>Paph. Orchilla</i> x <i>Paph. Maudiae</i>	G.Hart(O/U)
Andre Carpenter Bourgeois	<i>Onc. Ballet</i> x <i>Onc. Anthroclis</i>	Everglades	Road Runner	<i>Paph. Promised Land</i> x <i>Paph. Pandemonium</i>	Orchids Royale
Angel Cloud	<i>Onc. Angel Mist</i> x <i>Onc. calochillum</i>	Dr/Mrs K.Wilson	Royale Glen	<i>Paph. My Daughter</i> x <i>Paph. Pandemonium</i>	Orchids Royale
Annette Wurster	<i>Onc. waluewa</i> x <i>Onc. ornithorhynchum</i>	D.Floerker	Sabine Krauss	<i>Paph. Royal Anthem</i> x <i>Paph. Magic Glen</i>	Orchids Royale
Fenland Mystique	<i>Onc. taty</i> x <i>Onc. pulchellum</i>	K & B.Beale	Sharp Shooter	<i>Paph. kolopakingii</i> x <i>Paph. ilenianum</i>	T.Fourman(O/U)
Hsinying Gorama	<i>Onc. Makali</i> x <i>Onc. Gower Ramsey</i>	Ching Hua	Sierra Storm	<i>Paph. Promised Land</i> x <i>Paph. malipoense</i>	Orchids Royale
Hula Red	<i>Onc. Love That Red</i> x <i>Onc. Barbie</i>	Dr/Mrs K.Wilson	Sparkling River	<i>Paph. Rainbown River</i> x <i>Paph. Maudiae</i>	Orchid House
Misty Cloud	<i>Onc. Bird Dancer</i> x <i>Onc. Angel Mist</i>	Everglades(W.Bussey)	Special Attraction	<i>Paph. Magic Mood</i> x <i>Paph. malipoense</i>	Orchids Royale
Space-Petal	<i>Onc. sphacelatum</i> x <i>Onc. macropetalum</i>		Star Power	<i>Paph. California Girl</i> x <i>Paph. Pandemonium</i>	Orchids Royale
<b>PAPHIOPEDILUM</b>			Sunshine Coast	<i>Paph. Willowstee</i> x <i>Paph. Magic Mood</i>	Orchids Royale
Action Central	<i>Paph. Acclamation</i> x <i>Paph. malipoense</i>	Orchids Royale	Teen Queen	<i>Paph. Risque</i> x <i>Paph. Saint Ouens Bay</i>	Orchids Royale
Adventure Ridge	<i>Paph. Royal Anthem</i> x <i>Paph. Jemma Marie</i>	Orchids Royale	Thingamajig	<i>Paph. Malherbe</i> x <i>Paph. Acclamation</i>	Orchids Royale
Alpine Ridge	<i>Paph. Response</i> x <i>Paph. Alma Gavaert</i>	Orchids Royale	Tornado Junction	<i>Paph. Risque</i> x <i>Paph. Jemma Marie</i>	Orchids Royale
Angel Crystal	<i>Paph. Jack Tonkin</i> x <i>Paph. White Knight</i>	T.Takano	Treasure Chest	<i>Paph. Giljon</i> x <i>Paph. Millionette</i>	Orchids Royale
Bizarre Beauty	<i>Paph. Keyeshill</i> x <i>Paph. micranthum</i>	Orchids Royale	Tsukikage	<i>Paph. Demura</i> x <i>Paph. Susan Tucker</i>	T.Takano
Blast Master	<i>Paph. My Daughter</i> x <i>Paph. Night Sky</i>	Orchids Royale	Wössner Amosand	<i>Paph. acmodontum</i> x <i>Paph. sanderianum</i>	F.Glanz
Bolting Point	<i>Paph. Comoran</i> x <i>Paph. Maudiae</i>	Orchids Royale	Wössner Jaguar	<i>Paph. Wössner Spotter</i> x <i>Paph. World Venture</i>	F.Glanz
Combustion	<i>Paph. California Girl</i> x <i>Paph. Tioga Pass</i>	Orchids Royale	Wössner Kolokod	<i>Paph. kolopakingii</i> x <i>Paph. godefroyae</i>	F.Glanz
Doctor Thomas Sowell	<i>Paph. Doctor Walter Williams</i> x <i>Paph. Via Figueroa</i>	G.Lawless(Orchid House)	Wössner Koloknock	<i>Paph. Docteur Knock</i> x <i>Paph. kolopakingii</i>	F.Glanz
Doctor Walter Williams	<i>Paph. Sandra Bay</i> x <i>Paph. Great Pacific</i>	G.Lawless(Orchid House)	Wössner Pinkmic	<i>Paph. Hopkinsianum</i> x <i>Paph. micranthum</i>	F.Glanz
Euphoria	<i>Paph. Grace Day</i> x <i>Paph. emersonii</i>	Orchids Royale	<b>PHALAENOPSIS</b>		
Glen Age	<i>Paph. armeniacum</i> x <i>Paph. Magic Mountain</i>	Orchids Royale	Blushing Orphan	<i>Phal. Elisa</i> x <i>Phal. Capitola</i>	Brennan's(O/U)
Hans Strahl	<i>Paph. Bidborough</i> x <i>Paph. hirsutissimum</i>	Wichmann Orch.	Cafe Au Tris	<i>Phal. Cafe Au Lat</i> x <i>Phal. equestris</i>	John Hutchinson
Hocus Pocus	<i>Paph. Magic Lantern</i> x <i>Paph. Jemma Marie</i>	Orchids Royale	Choccolocco Sunrise	<i>Phal. Julia Wilson</i> x <i>Phal. Golden Buddha</i>	Arthur Moore
Hsinying Majakun	<i>Paph. Janet Kunkle</i> x <i>Paph. Maudiae</i>	Orchids Royale	Fran Wilson	<i>Phal. Katie Morris</i> x <i>Phal. Sweet Liberty</i>	H.P.Norton
Ice Magic	<i>Paph. Magic Mood</i> x <i>Paph. Lime Ice</i>	Orchids Royale	Heavenly Pink	<i>Phal. Bruce Araki</i> x <i>Phal. Pink Festival</i>	Wilks Orch.
Ingenious	<i>Paph. malipoense</i> x <i>Paph. Pandemonium</i>	Orchids Royale	Ho's Black Cherub	<i>Phal. Ching Fang Queen</i> x <i>Phal. Crimson Cherub</i>	Tin-Fan Ho
Jared Pierre	<i>Paph. Top Model</i> x <i>Paph. Jemma Marie</i>	Orchids Royale	Ho's Green Viol	<i>Phal. micholitzii</i> x <i>Phal. Penang Viola</i>	Tin-Fan Ho
Kagayaki	<i>Paph. Pandemonium</i> x <i>Paph. Acclamation</i>	Orchids Royale	Ho's Sweet Muscats	<i>Phal. Tsay's Evergreen</i> x <i>Phal. Penang Viola</i>	Tin-Fan Ho
Laiudshan Sha-i-Maran	<i>Paph. Illumination</i> x <i>Paph. Personality</i>	Orchids Royale	Hula Princess	<i>Phal. Memoria Regina Busse</i> x <i>Phal. Princess Kaiulani</i>	Wilks Orch.
Lawless Rheingold	<i>Paph. hirsutissimum</i> x <i>Paph. sanderianum</i>	T.Takano	Kaiser's Birthday	<i>Phal. Kaiser's Fun</i> x <i>Phal. Bavarian Orange</i>	Brennan's(M.Steen)
Lawless Rigoletto	<i>Paph. Susan Booth</i> x <i>Paph. concolor</i>	T.Fourman(O/U)	Mistral Spring Daybreak	<i>Phal. Golden Daybreak</i> x <i>Phal. Silk Worm</i>	John H.Miller
Lime Mountain	<i>Paph. Gothic Garden</i> x <i>Paph. philippinense</i>	G.Lawless(Joe Kunisch)	Mowli's Magic	<i>Phal. Summer Morn</i> x <i>Phal. violacea</i>	Brennan's
Mad Scramble	<i>Paph. Magic Mountain</i> x <i>Paph. Lime Ice</i>	G.Lawless(Hanes Orchids)	Shenandoah Fire	<i>Phal. Golden Music</i> x <i>Phal. Penang Girl</i>	Brennan's
Marie-Louise Fourman	<i>Paph. Pacific</i> x <i>Paph. Viven</i>	Orchids Royale	Shenandoah Gold	<i>Phal. Deventeriana</i> x <i>Phal. Penang Girl</i>	Brennan's
Market Value	<i>Paph. Lippegold</i> x <i>Paph. glaucophyllum</i>	T.Fourman(O/U)	Shenandoah Powder Puff	<i>Phal. Blushing Orphan</i> x <i>Phal. Empress</i>	Taisuco
Matoaka Isold	<i>Paph. Sharnden</i> x <i>Paph. Thunder Bay</i>	Orchids Royale	Taisuco Fireball	<i>Phal. Chih Shang's Stripes</i> x <i>Phal. equestris</i>	Taisuco
Matoaka Maria Callas	<i>Paph. Dakota</i> x <i>Paph. Farmmore</i>	G.Lawless(Orchid House)	Taisuco Galaxy	<i>Phal. Aien Nasu</i> x <i>Phal. Taisuco Crane</i>	Taisuco
Matoaka Rusalka	<i>Paph. Sumurun</i> x <i>Paph. Hanes' Tranquility</i>	G.Lawless(J.Hanes)	Taisuco Glory	<i>Phal. Brother Lawrence</i> x <i>Phal. Salu Spot</i>	Taisuco
Matoaka Saint Patrick	<i>Paph. Beauté</i> x <i>Paph. Great Pacific</i>	G.Lawless(Orchid House)	Taisuco Moonriver	<i>Phal. Aien Kaala</i> x <i>Phal. amabilis</i>	Taisuco
Matoaka Spring Snow	<i>Paph. Satty</i> x <i>Paph. niveum</i>	G.Lawless(Orchid House)	Taisuco Sheen	<i>Phal. Taisuco Crane</i> x <i>Phal. Taisuco Moon</i>	Taisuco
Matoaka White Magic	<i>Paph. Blanche Sawyer</i> x <i>Paph. Hanes' Tranquility</i>	G.Lawless(J.Hanes)	<b>PHRAGMIPEDIUM</b>		
Mountain Mover	<i>Paph. Magic Mountain</i> x <i>Paph. Pandemonium</i>	Orchids Royale	La Davyère	<i>Phrag. Simon Marcotte</i> x <i>Phrag. longifolium</i>	P.Brochu(J.P.Faust)
Multiple Choice	<i>Paph. Magic Glen</i> x <i>Paph. Sudden Impact</i>	Orchids Royale	Mietenkam	<i>Phrag. carcinum</i> x <i>Phrag. Hanne Popow</i>	O.Gruss
Night Thunder	<i>Paph. Night Sky</i> x <i>Paph. Thunder Bay</i>	Orchids Royale	<b>POTINARA</b>		
Oberhausen's Angel	<i>Paph. Angela</i> x <i>Paph. Greyi</i>	Baumann-Orch.	Chan Hsiu	<i>Bic. Golden Art</i> x <i>Pot. Haw Yuan Gold</i>	Ching Ruey Orch.
Pacific Rim	<i>Paph. Mahaska</i> x <i>Paph. Viven</i>	Orchids Royale	Cosmo-Conglèsse	<i>Bc. Déesse</i> x <i>Pot. Congaree</i>	Kokusai
Pacific Roth	<i>Paph. rothschildianum</i> x <i>Paph. Pacific Ocean</i>	Orchid House	Hawaiian Charisma	<i>Pot. Hisako Akatsuka</i> x <i>Lc. Memoria Robert Strait</i>	Kodama(Carmela)
Panic Button	<i>Paph. Pandemonium</i> x <i>Paph. Winston Churchill</i>	Orchids Royale	Hawaiian Thrill	<i>Pot. Hisako Akatsuka</i> x <i>Bic. American Heritage</i>	Kodama(Carmela)



JANUARY 2000 REGISTRATIONS

Supplied by the Royal Horticultural Society as International Registration Authority for Orchid Hybrids

NAME	PARENTAGE	REGISTERED BY
(O/U = Originator unknown)		
<b>BLETILLA</b>		
Penway Imperial	<i>Ble. striata</i> x <i>Ble. yunnanensis</i>	R.G. & A. Evenden
Penway Rainbow	<i>Ble. Yokohama</i> x <i>Ble. ochracea</i>	R.G. & A. Evenden
Penway Rose	<i>Ble. ochracea</i> x <i>Ble. yunnanensis</i>	R.G. & A. Evenden
Penway Starshine	<i>Ble. Yokohama</i> x <i>Ble. szetschuanica</i>	R.G. & A. Evenden
<b>BRASSOCATTLEYA</b>		
Hawaiian Serenade	C. Earl x Bc. Hawaiian Champion	Kodama
<b>BRASSOLAELOCATTLEYA</b>		
Chie Hattori	Lc. Zuiho x Blc. Meditation	Akatsuka Orch.Gdns.
Lenette's Snow Storm	B. nodosa x Lc. Stephen Oliver Fouraker	K.Davis(Lenette)
Memoria Bozena Moszczenska	Lc. Royal Emperor x B. digbyana	B.Borecka Salta
Remar's Wonder	Blc. Bryce Canyon x B. nodosa	R. & M.Gerber
Schloot Pleasures	Blc. Janice Pettee x Lc. Virginia	D.Schloot
Streeter's Sunrise	Blc. San Diego Sunset x C. loddigesii	R.Streeter
Viola Cady Krahm	Blc. Snowline x Blc. Bouton D'Or	W.K.Nakamoto
<b>CATASETUM</b>		
Guadeloupeyann	Ctism. barbatum x Ctism. macrocarpum	A.R.Gibson
<b>CATTLEYTONIA</b>		
Barrel of Brandy	Ctna. Nip of Brandy x Ctna. Capri	D.Neuendorff
Danny Quest	Ctna. Why Not x C. skinneri	Quest Orch.
Splash of Port	Ctna. Dash of Port x Ctna. Capri	D.Neuendorff
Swirl of Brandy	Ctna. Capri x Ctna. Brandi	D.Neuendorff
<b>*CHUATIANARA (Chn.)</b>		
Yeo Kim Hua	Yzwr. Thai Gem x Ben. Kalsom	How Wai Ron
<b>CIRRHOPHYLLUM</b>		
Wilmar New Generation	Cirr. graveolens † x Bulb. affine	W.R.Williams
<b>CYMBIDIUM</b>		
Dutchman's Fire	Cym. Dutchman's Deight x Cym. Winter Fire	Tom Burian Orch.
Mau Mist	Cym. Olymnilum x Cym. aloifolium	Haiku Maui(L.R.De Garmo)
Strath Surprise	Cym. White Valley x Cym. Valley Wland	Tom Burian Orch.
Strath Valley	Cym. Chocolata x Cym. Sleeping Dream	Tom Burian Orch.
Winter Valley	Cym. Winter Fire x Cym. Valley Zenith	Tom Burian Orch.
<b>DENDROBIUM</b>		
Amytan	Den. Amy x Den. tangerinum	Singapore Bot.Gdns
Bill McAlister	Den. Tora Ohashi x Den. bigibbum	W.K.Nakamoto
Boys' Brigade	Den. Kiyoshi Blue x Den. Eunice	Singapore Bot.Gdns

NAME	PARENTAGE	REGISTERED BY
<b>POTINARA (continued)</b>		
Pot. Shinfong Lisa x Blc. Maitland	Ching Ruey Orch.	
Pot. Love Call x Sc. Beaufort	K.Taguchi	
Ken Beale	K. & B.Beale	
Millennium Gold	W.Guillory(Carter & Holmes)	
Orange Butterfly	K.Taguchi	
Pamela Derrham	I.Linden(Daniger)	
Red Pepper	K.Taguchi	
<b>SOPHROLAELOCATTLEYA</b>		
Alice Wilk	Slc. Tangerine Jewel x C. Princess Bells	Wilk Orch.
Angel Song	Lc. Oigade's Glow x Sc. Beaufort	T.Kuroyanagi
Fenland Sunbird	Lc. Jungle Elf x Sc. Calypso	K. & B.Beale
Hula Fire Dance	Slc. Tangerine Jewel x Slc. Hugh Cragg	Wilk Orch.
Lasting Treasures	Slc. Precious Stones x Slc. Summerville	B.N.Jones
Red Treat	Slc. Blazing Saddles x Slc. Queen's Treat	H.Rohrl
Ruby Song	Lc. Mini Purple x Slc. Kagaribi Dawn	K.Taguchi
Tangerine Belle	Lc. Barbara Belle x Slc. Tangerine Jewel	Wilk Orch.(Kosaki Orch.)
<b>THELYMITRA</b>		
Adelaide Rosella	<i>Thel. grandiflora</i> † x <i>Thel. rubra</i>	H.Beyrle
Ron Heberle	<i>Thel. nuda</i> x <i>Thel. variegata</i>	H.Beyrle
<b>VANDA</b>		
Crownfox Garden Glow	V. Josephine van Brero x V. Crownfox	R.F.Orchids
Crownfox Garden Sunshine	V. Josephine van Brero x V. Barbara Krantz	R.F.Orchids
Debbie Ombac	V. Jennie Hashimoto x V. Southeast Beauty	A.Akana
John Dagula	V. Danny German x V. Kasem's Delight	J. & M.Orch.(Suphachadiwong)
Memoria Rowin Akana	V. Patricia x V. Memoria Herbert German	A.Akana
Motes Crimson Pirate	V. Taveesuksa x V. Motes Resplendent	Motes
Waianae Beauty	V. Waianae Fortune x V. Nancy Rodillas	A.Akana(Miyamoto)
Waianae Fortune	V. Frank Crook x V. Chimey Walker	A.Akana(Miyamoto)
<b>VASCOSTYLUS</b>		
Dulcie Neuc	Ascdm. Rose Miller x Vasco. Five Friendships	C. & M.Neucom (Brighton Nursery)
Walnut Valley	Vasco. Fuchs Sapphire x Rhyn. coelestis	M.C.Thompson (R.F.Orchids)
<b>WILSONARA</b>		
Wlene's Surprise	Odrm. Lenestro x Wilis. Solana Surprise	R.Stevens(O/U)
Tehachapi	Oodcm. Helmut Rohrl x Oda. China Red	H.Rohrl
<b>WOODWARDARA</b>		
Emerald City	Ngda. murrayana x Zox. Elfin Jade	Troweena(J.Woodward)

\* New intergeneric name with abbreviation for the following combination. The botanical authority follows each component genus.

Calasodia = *Caladenia* R.Brown x *Glossodia* R.Brown

*Elythodia* = *Elythranthera* (Endlicher) A.S.George x *Glossodia* R.Brown

† Natural genus new to registration. The botanical authority follows the generic name.

*Glossodia* R.Brown

*Elythranthera* (Endlicher) A.S.George

† Species appearing for the first time as parents in registration:-

*Compantia ignea*; *Dendrobium bracteosum*; *Elythranthera emarginata*; *Glossodia major*; *Odontoglossum mianorum*; *Thelymitra grandiflora*



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<b>DENDROBIUM (continued)</b>			<b>MASDEVALLIA</b>		
Charelle	Den. Madame Strivimol x Den. <i>lasianthera</i>	C. Truscott (Cairns Orchid Centre)	Veitch's Candy Cane	Masdev. Tuakau Candy x Masdev. <i>veitchiana</i>	R. & R. Midgett (L. Komoda)
David Baltimore	Den. Michiko x Den. Anytan	Singapore Bot. Gdns	<b>MILTASSIA</b>		
Enzed Aristocrat	Den. <i>kingianum</i> x Den. Red Squire	D. Burgess	Memoria Donald Christian	Brs. Rex x Milt. Honolulu	Kauai Orch. (Richella)
Enzed Elite	Den. Specio-kingianum x Den. Doug Burgess	D. Burgess			
Hope Bishop	Den. Graham Hewitt x Den. <i>speciosum</i>	Floralist (L. Klein)	<b>MILTONIA</b>		
Kiyoshi Blue	Den. Kiyoshi Izumi x Den. Blue Shadow	Singapore Bot. Gdns	Ann Bergey	Milt. Ballet Bay x Milt. Arnold Linsman	C. Caswell
Myall Lakes	Den. Myall Beauty x Den. Whitsunday Island	Mrs M. Korsman	Lingwood Red	Milt. Red Woodham x Milt. Lingwood	E. Carlson
			Red Wine		E. Carlson
<b>DORITAENOPSIS</b>			<b>MOKARA</b>		
Bedford Veitch	Phal. Veitchiana x Dor. <i>pulcherrima</i>	H. Ginsberg	Zhu Rongji	Arach. Maggie Oei x Ascda. Guo Chia Long	Singapore Bot. Gdns
Blushing Windsong	Dips. Ramsden x Phal. Misty Moonlit Night	Windsong	<b>ODONTODIA</b>		
Hampshire Spring Bride	Dips. Baidan's Spring Bride x Phal. Hampshire	Berries A. Klehm	Joanne Whitney	Oda. Saint Clement x Oda. Durham City	Robert Hamilton
Hsinying Mount	Dips. Mount Lip x Dips. Timmy Ace	Ching Hua			
Lite Windsong	Dips. Orglade's Puff x Phal. Magdalene Acker	Windsong	<b>ONCIDIUM</b>		
Miva Sombra	Phal. Miva Turner x Dips. Sun Prince	Michel Vacherot	Puli Griffith	Onc. Hsinying Gorama x Onc. Sweet Sugar	Ching Hua
Nobby's Pink Lady	Dips. Nobby's Valentine x Phal. New Cinderella	Nobby Orch.	Red Lace	Onc. Angel Mist x Onc. Regina	Dr/Mrs K. Wilson
Nobby's Purple	Phal. New Cinderella x Dips. Happy Smile	Nobby Orch.	Red Sand	Onc. Regina x Onc. Robsan	Dr/Mrs K. Wilson
Nobby's Valentine	Dips. Happy Valentine x Phal. Eva's Nevada Puro	Nobby Orch.			
Nobby's Zebra	Dips. Little Zebra x Phal. Taisuco Fireball	Nobby Orch.	<b>OTAPARA</b>		
<b>EPICATILEYA</b>			Snow-Storm Sunset	Bro. <i>sanguinea</i> x Otr. Slip of Brandy	D. Neuendorff
Lanlynn Ksenia	Epc. Landwoods x C. Lynn Spencer	B. Borecka Salta	<b>PAPHIOPEDILUM</b>		
<b>GALEANDRA</b>			Amanda Bay	Paph. Amanda x Paph. Saint Ouens Bay	O. Viengkhou
Pink Penny	Gal. <i>batemanii</i> x Gal. <i>clausii</i> †	M. LeDoux	Aleen Dalke	Paph. Dragon Ruby x Paph. Peter Lassen	Hoodview
<b>HASEGAWAARA</b>			Beau Monde	Paph. Icicle x Paph. Denhurst	O. Viengkhou
On a Roll	Hasgw. Roll of Honour x C. Horace	D. Neuendorff	Dioggi	Paph. Kowloon x Paph. Maudiae	Hoodview
<b>HAWKINSARA</b>			Double Grey	Paph. Double Shot x Paph. Greyi	S. Tsui (N. Tarnaci)
Agent of War	Sic. Agent Orange x Ctna. Why Not	D. Neuendorff	Green Oak	Paph. Dianita x Paph. Caddiana	A. Klehm (O/U)
<b>LAELIOCATONIA</b>			Hakugin	Paph. Kay Rinaman x Paph. White Knight	T. Takano
Drummer Boy	Lctna. Little Drummer Boy x Ctna. Capri	D. Neuendorff	Hampshire Fair	Paph. Faire-Maud x Paph. <i>fairieanum</i>	A. Klehm
<b>LAELIOCATILEYA</b>			Hampshire Freckles	Paph. Freckles x Paph. Hanes' Tranquility	A. Klehm
Blue Magic	L. Amoena x Lc. Mini Purple	F. Clarke	Hampshire White King	Paph. King of Sweden x Paph. Skip Bartlett	A. Klehm
Hawaiian Bounty	C. Horace x Lc. Mildred Rives	Kodama	Hatsukoi	Paph. Moe x Paph. Skip Bartlett	T. Takano
Kokie Millard	Lc. Mariner x L. anceps	M. LeDoux (O/U)	Helight	Paph. Hellas x Paph. Nulight	A. Klehm
Memoria Stanislaw Lorenz	Lc. Bonanza x C. Barbara Kirch	B. Borecka Salta	Icicle	Paph. La Honda x Paph. <i>niveum</i>	O. Viengkhou (Stewart Orch.)
Mummy's Mariner	Lc. Mariner x C. <i>amethystoglossa</i>	B. Borecka Salta	Jim Bridges	Paph. Kay Rinaman x Paph. Alsan's Delight	A. Svoboda
Polish Favorite	Lc. Gila Wilderness x C. <i>amethystoglossa</i>	B. Borecka Salta	Lawless Lohengrin	Paph. Beedon x Paph. Via Solista	G. Lawless (Orchid House)
Polish Velvet	Lc. Royal Emperor x C. <i>amethystoglossa</i>	B. Borecka Salta	Lawless Rosenkavalier	Paph. Our Prince x Paph. Langley Pride	G. Lawless (Orchid House)
Schloat Gem	Lc. Larry Gramis x Lc. Virginia	D. Schloat	Matoaka Meadows	Paph. Simon x Paph. Wonder Isle	G. Lawless (Orchid House)
<b>LEPANTHES</b>			Mayan Girl	Paph. Sandra Lee x Paph. Gigi	A. Svoboda
Ayla	Lths. <i>guatemalensis</i> † x Lths. <i>horrida</i> †	M. Behar	Memoria Christian Lumayao	Paph. Beedon x Paph. Chargwen	G. Lawless (Orchid House)
<b>LYCASTE</b>			Miya Milky Way	Paph. Supersuk x Paph. <i>bellatulum</i>	T. Ozawa
Janice Miller	Lyc. Henty x Lyc. Macama	J. & A. Miller (A. Alcorn)	Mother of God	Paph. Via Avila Beach x Paph. Freckles	G. Lawless (Orchid House)
			Oso Red	Paph. Burpham x Paph. Cardinal	A. Svoboda
			Pachacamac	Paph. Gigi x Paph. Great Pacific	S. Tsui (R. J. Rands)
			Paul Parks	Paph. <i>adductum</i> x Paph. <i>sanderanum</i>	T. Ozawa
			Roskip	Paph. <i>ratichidulum</i> x Paph. Skip Bartlett	T. Takano
			Shirayuki	Paph. Moe x Paph. Snowman	O. Viengkhou
			Snow Crane	Paph. Hellas x Paph. White Celebration	



NAME	PARENTAGE	REGISTERED BY
<b>PAPHIOPEDILUM (continued)</b>		
Snowpuddle	<i>Paph.</i> Snowram x <i>Paph.</i> F. C. Puddle	A. Klehm
Strawberry Field	<i>Paph.</i> Paeony x <i>Paph.</i> Skip Bartlett	O. Viengkhou
Trappist Thomas Merton	<i>Paph.</i> Acker's Pinnacle x <i>Paph.</i> Greenspot	G. Lawless(Orch.by Ackers)
Via Hatsuuki	<i>Paph.</i> Via Avila Beach x <i>Paph.</i> Salty	T. Ozawa(Gallup & Stribling)
Virgin Moon	<i>Paph.</i> Virgo x <i>Paph.</i> Via Virgenes	J. Cash
<b>PHALAENOPSIS</b>		
Acker's Bright Spot	<i>Phal.</i> Brother Peak x <i>Phal.</i> Brother Brungor	Orch.by Ackers(O/U)
Acker's Candyland	<i>Phal.</i> Acker's Lady x <i>Phal.</i> Mary Gingerich	Orch.by Ackers
Acker's Desert Night	<i>Phal.</i> Nancy Ann Acker x <i>Phal.</i> Deventeriana	Orch.by Ackers
Acker's Jewel	<i>Phal.</i> New Fancy x <i>Phal.</i> Acker's Ruby	Orch.by Ackers
Acker's Magic	<i>Phal.</i> Acker's Ruby x <i>Phal.</i> Jungle Magic	Orch.by Ackers
Andrea's Imp	<i>Phal.</i> Mailbu Imp x <i>Phal.</i> Andrea Niessen	A. Klehm
Bedford Fiery Victory	<i>Phal.</i> Fireberry x <i>Phal.</i> Brother Victory	H. Ginsberg
Bedford Flashy	<i>Phal.</i> Golden Gift x <i>Phal.</i> Miniflash	H. Ginsberg
Bedford Glow	<i>Phal.</i> Brother Elizabeth x <i>Phal.</i> Taipei Gold	H. Ginsberg
Bedford Grouchy	<i>Phal.</i> Ho's French Fantasia x <i>Phal.</i> Bedford Grumpy	H. Ginsberg
Bedford Mansfield	<i>Phal.</i> Palfang's Queen x <i>Phal.</i> Lord Mansfield's Occasion	H. Ginsberg
Bedford Peacock	<i>Phal.</i> Brother Peacock x <i>Phal.</i> Brother Brungor	H. Ginsberg
Bedford Spots	<i>Phal.</i> Brother Heather x <i>Phal.</i> Brother Brungor	H. Ginsberg
Bedford Sunspots	<i>Phal.</i> Golden Sun x <i>Phal.</i> Brother Brungor	H. Ginsberg
Datu Chan San-chang	<i>Phal.</i> violacea x <i>Phal.</i> pantherina	Tham Chee Keong
Fairie Cream	<i>Phal.</i> Berries 'n' Cream x <i>Phal.</i> Windson's Fairie	Windson
Fashion Cherry	<i>Phal.</i> Sentra x <i>Phal.</i> Ta-Lin Spot	Nobby Orch.
Fashion Little Star	<i>Phal.</i> Kuntrarti Rarashati x <i>Phal.</i> Su-An Super Star	Nobby Orch.
Fashion Peacock	<i>Phal.</i> Golden Pecker x <i>Phal.</i> Chiayi Red Queen	Nobby Orch.
Formosa Tiger	<i>Phal.</i> Palfang's Queen x <i>Phal.</i> Black Eagle	Nobby Orch.
Hsiinying Palady	<i>Phal.</i> Pamela Lady x <i>Phal.</i> Su's Red Lip	Ching Hua
Hsiinying Square	<i>Phal.</i> Luchia Lady x <i>Phal.</i> China Best Girl	Ching Hua
Joyful Windson	<i>Phal.</i> Joyful x <i>Phal.</i> Jordan's Pixie	Windson
Melissa Susan Felsky	<i>Phal.</i> Brother Gem x <i>Phal.</i> Brother Lawrence	H. Ginsberg
Michelle Erin Felsky	<i>Phal.</i> Penang Girl x <i>Phal.</i> Brother Lawrence	H. Ginsberg
Midnight Windson	<i>Phal.</i> Ida Fukumura x <i>Phal.</i> Midnight Dream	Windson
Miva Flash	<i>Phal.</i> Miva Granny x <i>Phal.</i> Miva Spottissimo	Michel Vacherot
Miva Raptical	<i>Phal.</i> Raptigny x <i>Phal.</i> Callicome	Michel Vacherot
Nobby's Angel	<i>Phal.</i> Brother Paradise x <i>Phal.</i> Tsay's Evergreen	Nobby Orch.
Nobby's Bamboo	<i>Phal.</i> Bamboo Baby x <i>Phal.</i> Buena Jewel	Nobby Orch.
Nobby's Crystal Ball	<i>Phal.</i> arabilis x <i>Phal.</i> Rainbow Chip	Nobby Orch.
Nobby's Fox	<i>Phal.</i> Buena Jewel x <i>Phal.</i> Penang Girl	Nobby Orch.
Nobby's Jewel	<i>Phal.</i> Lippesgruss x <i>Phal.</i> Mirabelle	Nobby Orch.
Nobby's Little Banana	<i>Phal.</i> Nobby's Amy x <i>Phal.</i> Brother Passat	Nobby Orch.
Nobby's Little Candy	<i>Phal.</i> Be Glad x <i>Phal.</i> Manogany Leopard	Nobby Orch.
Nobby's Snow Princess	<i>Phal.</i> Nobby's Amy x <i>Phal.</i> Leucorhoda	Nobby Orch.
Penang Red	<i>Phal.</i> Penang Queen x <i>Phal.</i> An-Lin Red	Nobby Orch.
Pink Parasol	<i>Phal.</i> Abendrot x <i>Phal.</i> Vladimir Horowitz	J. Hagenaars(Mountain View)
Pisgah Triumph	<i>Phal.</i> Royal Fantasy x <i>Phal.</i> Eleanor Yates	A. Klehm
Rad's Pegasus	<i>Phal.</i> Cloud of Butterflies x <i>Phal.</i> equestris	Owens Orchids
Royal Paul	<i>Phal.</i> Paul Tatar x <i>Phal.</i> Royal Kathleen	S. Reinstadler(O/U)
Shining Ruby	<i>Phal.</i> Acker's Light x <i>Phal.</i> Acker's Ruby	Windson
Summer Mist	<i>Phal.</i> Summer Wine x <i>Phal.</i> Moonmist	Orch.by Ackers
Whispering Windson	<i>Phal.</i> Lottie Halverson x <i>Phal.</i> Windson's Dawn	R. Vernon Windson
NAME	PARENTAGE	REGISTERED BY
<b>PHALAENOPSIS (continued)</b>		
White Windson	<i>Phal.</i> Taisuco Crane x <i>Phal.</i> Hakalau Queen	Windson
Windson's Fancy	<i>Phal.</i> Taisuco Lienhung x <i>Phal.</i> Ida Fukumura	Windson
Windson's Queen	<i>Phal.</i> Saera Loeb x <i>Phal.</i> Hakalau Queen	Windson
Windson's Sparkle	<i>Phal.</i> Side Line x <i>Phal.</i> Winter Beauty	Windson
Winter Windson	<i>Phal.</i> Shinichi Suzuki x <i>Phal.</i> Winter Maiden	Windson
<b>POTINARA</b>		
Mitsuo Akatsuka	<i>Pot.</i> Ikuo Akatsuka x <i>Blc.</i> Fred Stewart	Akatsuka Orch. Gdns.
<b>RENANTANDA</b>		
Alice Shih-hou Huang	<i>Ren.</i> Kalsom x <i>V. insignis</i>	Singapore Bot. Gdns
Professor Jamilah	<i>Ren.</i> Kalsom x <i>V. Pimsai</i>	Chaw Chin Sin
<b>SARCONOPSIS</b>		
Noelene Russell	<i>Sarco.</i> Melba x <i>Phal.</i> amabilis	R. Clement(K. Russell)
<b>SOPHROCATILEYA</b>		
Jessica Quest	<i>C.</i> Cherry Song x <i>Sc.</i> Lana Coryell	Quest Orch.
<b>SOPHROLAELIA</b>		
Pscalding	<i>Sl.</i> Valda x <i>Sl.</i> Psyche	A. McElwain(Baker & Chantry)
<b>SOPHROLAELIOCATILEYA</b>		
Madeira Doll	<i>C.</i> Caribbean x <i>Slc.</i> Pink Doll	B. Borecka Salta
Mayan Rubies	<i>Slc.</i> Golden Treat x <i>Slc.</i> Mayan Embers	F. Clarke
Orange Warfare	<i>Slc.</i> Agent Orange x <i>Sc.</i> Beaufort	D. Neuendorf
Splash of Napalm	<i>Sl.</i> Orpetii x <i>Slc.</i> Napalm	D. Neuendorf
<b>VANDA</b>		
Irina Mirsky-Zayas	<i>V.</i> Fuchs Night Angel x <i>V. coerulea</i>	R. F. Orchids
<b>YONEZAWAARA</b>		
Thai Gem	<i>Vf.</i> Snow Dance x <i>Rhy.</i> gigantea	How Wai Ron(O/U)

\* New intergeneric name with abbreviation for the following combination. The botanical authority follows each component genus.

*Chuiatanara* (named in honour of Mr Chua Tian of Singapore) = *Neofinetia* Hu x *Renanthera* Loureiro x *Rhynchostylis* Blume x *Vanda* Jones ex R. Brown

† Species appearing for the first time as parents in registration:-

*Cirrhopetalum graveolens*; *Galeandra classii*; *Lepanthes guatemalensis*; *Lepanthes horrida*

#### GENERAL CORRECTIONS

*Habenaria columbae* is now accepted as a synonym of *Hab. lindleyana* and *Hab. militaris* is now accepted as a synonym of *Hab. rhodochela* in registration. Past registrations have been corrected.

Please note in future that the code for Orchids Station from Thailand will be **Orchids Station[THA]** and the code for Orchids Station from Singapore will be **Orchids Station[SGP]**.



CORRIGENDA - Orchid Review list of:

November/December 1998, Woodwardara Adelaide Alive: seed parent should read Zcx Kiwi and last word Adelaide should move to the last column.

November/December 1999, Cym. Pink Elephant: seed parent should read Pifata

CORRIGENDA - Sander's List of Orchid Hybrids 1996-1998

(Primary entries only noted below)

p.40 B/c. Galleguita del Paraiso should read Galleguita del Paraiso

p.282 Hab. Charm: change seed parent to lindleyana

p.727 Wdwa. Adelaide Alive: seed parent should read Zcx Kiwi

p.728 Insert Zcx Kiwi x Zga. Dynamo = Wdwa. Adelaide Alive

p.730 Delete Z. Kiwi and supplementary entry

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## Australian Orchid Review

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address*

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AOR 065

## Hills District Orchids

(Props. Graeme, Lyn and David Banks)

### New Spring 2000 Listing Out Now

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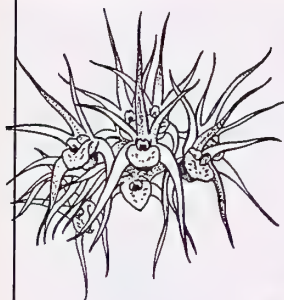
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## Cattleyas

Spring is now here. Cattleyas are now starting to come into growth after their dormant period.

If plants need dividing, one must wait until you see the new roots appearing. If you intend to pot-on, one may repot at your leisure.

If you want to divide make sure you sterilise your cutting tools with STERIKLEEN®. This is very important, as one must try and stop the spread of virus. Make sure each cut is sealed with STERI PRUNE® a bituminous sealing compound. Once the plant has been repotted, make sure you stake all the bulbs to stop movement of the plant while watering. If movement is present, new roots could get damaged and then they will decide not to grow.

Once potted drench plant well with a rooting compound such as AUXINONE® or you may use CROP MAX®. Use weekly until new growth is evident.

If seedlings have outgrown their pots, you may pot these into the next size pot. PORT POTS have a very good range of pots suitable for cattleyas.

Now is the time to start applying nutrients to your plants. Most growers like to start the season with an organic type fertiliser such as FISH EMULSION or the ever popular GARDEN PARTY®. Try to use a little CROP MAX® at label rate to help give the plants a growth boost.

Pests or fungal diseases should not be evident this time of the year. If you do have any discolouration of the bulbs apply one or two applications of HY-SAN® at label rate.

Give plants a little more light to harden plants off after their winter dormant period.

Water weekly.

## Cymbidiums

This cymbidium season we have seen some wonderful new hybrids. Every year they seem to get better and better! The major cymbidium hybridisers have certainly produced the goods this year.

Now is the time to start the yearly ritual of repotting. Once your plants have had their racemes removed, let plants have a rest for a week or two before dividing. It is easier to divide if you let your plants dry out a little.

Inspect plants carefully for signs of pest – scale, mites and also for unusual markings on the leaves. These tell tale marks could mean that the plant may have a virus infection. Remember virus cannot be cured. *No amount of nitrogen, iron or magnesium will cure virus.*

Sterilise all cutting implements before using to help stop the spread of virus. After repotting, water plants well. It is important not to over-water after dividing. If you do, you may encourage the growth of fungal diseases. Be careful! Some growers use a preventive fungicide in their mix or drench after repotting, to help prevent post repotting deaths.

Drench with a rooting hormone to help get the new roots on the move. After a few weeks, fertiliser should be applied. Alternate GARDEN PARTY® with a soluble such as HSO 22 or HSO 10.

Mature plants should now be receiving an application of nutrient. Many growers now use a *low nitrogen fertiliser* up until mid December. Make sure plants are damp before applying nutrient. Seedlings should be pushed with a good balanced fertiliser such as GARDEN PARTY®. Repot if necessary. Keep seedlings just moist. Watch for two-spotted mites. If present spray with a recognised acaricide.

If plants have been in a glass house during the winter – take out into shade house. Watch that they do not burn. If this is likely spray plants with ENVY®

## Natives

Lots of things happen with native orchids at this time of year. Although there is usually some plant in bloom this is the peak flowering time for cool growing natives and their hybrids. It is the time for shows, and this year, showing off to the expected overseas visitors.

There are a few things you can do to make entering your plants in shows a less stressful experience.

Clean your plants before the flowers develop. Remove any dead leaves and growths and any withered flower spikes. Leafless pseudobulbs that are still “green” are normal. They can flower for years. Watch for growths that become tangled in leaves (but remember that a good plant should naturally display its blooms free of the foliage).

Water well as the weather warms up but don't flood plants. Handwatering is best to protect the flowers from physical damage and fungal spots.

Beware of pests. A snail can ruin several *Dendrobium speciosum* racemes in one night! Make sure your plants are free of aphids and scale. The neighbours on the show bench don't want them and it's not only the judges that closely study the plants but other growers too.

Water all plants well before benching but don't have them dripping wet as the patches they leave on the tables won't be appreciated by the organisers even if you car can cope. Find out the arrangements for watering during the show. A few days in a hot hall or air-conditioned shopping centre can set a small plant back years. Mounted plants are particularly at risk.

Get a copy of the show schedule as early as possible and find the correct section for each of your intended entries. Make a list. It will speed up benching and allow you to easily retrieve plants at pack-up time. You'll be more certain that you have all your plants and that they are the right ones. It takes a whole day to set up a show but not much more than an hour to remove it!

When you get your plants home water them well. Hold off the fertiliser for a week or so if it was a long show and they are water stressed. Keep them out of hot sunlight until they recover. You will have to determine this for yourself as the length of time needed will depend on how long they were on display, how stressed they are and your growing conditions.

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fabulous plant that opens it blooms the day after the show, so home is often the only place to enjoy it. Build a mini display in a big water tray which has a layer of gravel/coarse aquarium gravel (is great) at least 1cm deep. Fill almost to the top of the gravel with water. The plants don't sit in it, but get the benefit of the humidity. Don't build your display close to a window where hot sunlight streams in or the plants will get scorched. Don't keep them indoors too long either. Orchid biology meant that there will not be any pollen floating around the room, but *D. falcorostrum* and some other species have a lovely overpowering scent on sunny mornings.

When the blooms drop it is time to check which plants need to be repotted or potted on. If there is room for the coming new growth and the media is in good condition, a feed and return to the bench is fine. Otherwise, it's time to get busy! The pH of the media in a number of plants should be checked as the levels of pine bark media tend to drop as ages and become too low for orchids. It should be a little below neutral, around 5.5-6.

Repotting is best done before new growths start to appear because they are very brittle and easily snapped off during handling. Even if you don't get to repot straight away, make sure that any weeds are removed as they will grow quickly now and may choke your plant before you get to it. Repot before the roots get too long or they will not be able to spread through the new media.

Check that your watering system is working. Misterns can get blocked and plants may have grown and now create a water shadow. To check, let the misters run for a couple of minutes, then turn them off and look for any dry areas.

Heated houses will need to have summer shading installed as the sun moves south and gets hotter. Check that fans are working and any vents stay open. If you live in an area where frosts will occur at this time of year and be sure to keep the heaters on stand-by.

Spring is the time to check out the first flowering seedlings of the latest breeding as well as enjoy the blooms of species and older hybrids now grown to specimen size.

## Paphiopedilum

Routine culture during late winter is much the same as for the previous few months. Plants should be watered only when moderately dry and given some weak Aquasol immediately after every third or fourth watering. Watch the weather – the westerly winds which characterise this time of the year can dry plants out quite quickly. Watering is best done during early morning.

Paphiopedilums benefit greatly from annual repotting. The slight shock of repotting encourages the growth of a new crop of roots which may otherwise not appear. The best time for repotting is from mid-September until late November.

The potting mix should be prepared a few weeks before use; this allows the bark to begin

breaking down – a condition which your Paphs. will appreciate.

Whilst Paphs. can be grown successfully in a variety of materials, I have had the best results using mixtures based on bark. A very good mixture consists of the following:

Pine Bark (approx. 5-10mm).....80%

Charcoal (approx. 5-10mm).....20%

Add to this:

Sel grit (granular limestone)

or bird grade shell grit.....2%

Hoof and Horn Meal (or, at a pinch,

Blood and Bone).....1%

Wet the bark and charcoal with normal strength Aquasol, add the other ingredients and mix thoroughly. The mixture should be kept damp (use water from here on) until ready for use and must be used fairly wet. If you cannot store the mixture in an area free from earthworms and other vermin, it may be better stored in open plastic bags. If available, about 10% coarse river gravel can be added; the weight of this helps prevent the pots from tipping over.

When buying potting mixtures always make sure they do contain plenty of nitrogenous fertiliser (have a good sniff) as bark alone contains very little that the plants can feed on.

Squat plastic pots are the most suitable for Paphiopedilums, particularly those with domed bottoms and plenty of drainage holes – not only for drainage but for aeration. A pot should be chosen which will comfortably hold the roots. The plant should be potted firmly with its base about 12mm below the surface. If the plant is wobbly, stake it. Do not use Osmocote or the like on Paphiopedilums.

When dividing Paphiopedilums I always try to leave two flowered growths plus whatever newer growth are ahead of these. The older flowered growth can be "back cut" and left in the pot during January.

Newly repotted plants are simply placed on the bench and watered and fertilised as before. The plants do not need to be widely spaced. Incidentally, open benching (say 3 x 1 Weldmesh) is far preferable and gives much better results than the solid benching once favoured

## Phalaenopsis

**Watering:**– Water *only* in mornings every 3 days. Mist foliage on hot windy days. Increase watering if weather starts to heat up. Do not leave water in crown of plants. Water floor to keep up humidity if necessary.

**Light:**– Leave shade at 70% until weather starts to warm up, then increase to 90%.

**Fertiliser:**– Fertilise fortnightly using Campbells A, Aqua-K or Phostrogen.

**Pest Control:**– Continue to fungicide every 6 weeks. Use Diazanone, Malathion or Pyrethrum to control scale and insect pests.

Keep a close watch for mites and treat with acaricide as necessary.

**General:**– Plants should be in full bloom during these months. Remember to stake the spikes for best displays. Do not spray flowers with water or fungicides and keep under cover as much as possible to avoid spotting.

## Vandaceous

**Watering:**– Water well in the mornings every 2 or 3 days. Avoid watering on cold or bleak days. Root systems should be kept moist and may require misting on dry, windy days particularly if hanging on wires only or potted in bare baskets or pots.

**Light:**– Strap leaf vandas and ascocendas need 50% shade. Outside vandas need very little cover at this time of year.

**Fertiliser:**– Fertilise once per fortnight during August using a low nitrogen fertiliser.

Increase to weekly during September, changing to a high nitrogen fertiliser and alternating over a 4 weekly period:–

Wk. 1. Inorganic high nitrogen – Campbells B, Aqua-feed or Aquasol.

Wk. 2. Foliar/Trace elements – Wuxall.

Wk. 3. Inorganic high nitrogen – as for week 1.

Wk. 4. Organic – Fish emulsion or Nitrosol.

**Pest Control:**– Continue to fungicide every 6 weeks. (e.g. Daconil, Mancozeb, Wettable Sulphur or Ridomil MZ WP).

Spray with Diazanone, Malathion or Pyrethrum if signs of insect damage or scale.

Watch for mites and treat as necessary.

If you use Wettable Sulphur as a fungicide it is also a good miticide.

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# Cymbidiums

## KING OF THE ORCHIDS

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### Editor's Report

Perhaps the most challenging job the editors of a magazine section such as this face is in providing a continuing range of interesting and informative articles issue after issue. It's very easy to dream up topics we'd like to see in these pages, or to think of people we'd like to have write articles for you but, as we all know, in general orchid growers are very busy people. They have jobs, family commitments, nurseries to run, orchid collections to maintain and even, heavens above, *other* interests and hobbies! Understandably, finding the time to put pen to paper may quite reasonably be considered as having a low priority in the scheme of things and, of course, we, as editors, don't want to be annoying prospective writers with constant enquiries as to possible contributions, article progress, or deadline reminders.

However, be that as it may, this publication is the public face of cymbidiums in Australia and, we believe, an important point of contact and a major source of stimulation, information, education and communication. While we have a good variety of material for you in this issue and some forthcoming features we're excited about, like any other editors, we can always use more. We would like to see Cymbidiums Australia continue to expand and improve in the manner it has over the past four or five years and we would also like to ensure that these pages are maintained as representative of all *Cymbidium* growers. To achieve these aims we need your assistance and, just as you are interested in reading

someone else's story, so are others as equally as interested in reading yours. We need you to share the wealth - to write for Cymbidiums Australia - as well as to read it.

So, if you have an idea for an article and would like a little help and encouragement, please contact one of us or, alternatively, when you spot the notebook, camera and smiling face heading your way at a *Cymbidium* gathering, would you consider giving us the opportunity to try and convince you that together we could produce something that will please both you and your fellow readers?

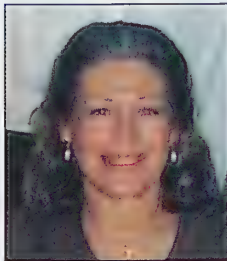
**In this issue:** Noel Grundon shares some of the highs, lows and insights gained from his experiences with breeding cymbidiums for the past 25 years; Greg Bryant completes the *Cym.* Winter Fair Heritage article with a look at the *Cym.* Stargard progeny; A visionary company, Van Schaik's BIO-GRO Pty Ltd, a major sponsor of this year's National Cymbidium Orchid Show, tell us about the birth of the company and of their involvement in much more than the production of quality orchid bark; Brian Blackley clears up a mystery for us in The Jinjerri Story; Carolin Allen keeps us up to date with the doings at COSV meetings; David Allen tells you why the National Cymbidium Show at Ararat is a very desirable event to attend in September; and last, but certainly not least, we mourn the passing of Frank Slattery through the words of his good friend, Fred Jones.

Noe Smith  
Editor

### Editorial Panel



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#### THE CYMBIDIUM ORCHID SOCIETY OF VICTORIA INC.

Meetings are held on 2nd Tuesday of each month (except January)

Popular Vote commences 7.50 p.m. —

Main Meeting commences 8.00 p.m.

Venue: Mt. Waverley Youth Centre,  
Millers Crescent, Mt. Waverley, Victoria.

For further details contact

Secretary, Kevin Brown,  
4 Riviera Street, Mt Waverley, Victoria 3149  
Phone: (03) 98081224  
President, Andy Leamon,  
Phone: (03) 97967935



## VALE – Frank Slattery

With great regret we advise readers of the Australian Orchid Review of the passing of an icon of the orchid world, Mr F. M. Slattery, who passed away at his Bexley home on the 19th May 2000, in his 96th year.

Francis Michael Slattery was born in the Sydney suburb of Balmain, the home of many great Australians, and although not of a political nature, achieved much in his lifetime. Later on he was educated at Marist Brothers' School at Kogarah, not many miles from his nursery at Bexley where he lived for 76 years.

At the age of fourteen he was apprenticed to the trade of coopering, which is the making of wooden casks and barrels principally for the storing and delivery of beer. Later on he founded his own coopering business, but with modern production of steel barrels, it became obvious that the days of wooden barrels were numbered.

Our friend was a keen lover of the bush and on one visit to the North Coast of New South Wales he came across a plant of *Dendrobium speciosum* var. *hillii* in full bloom. After returning to Bexley, he called on a fellow cooper, Tom Burn, who had a magnificent plant of *Cym. tracyanum* in full bloom growing outside in a large cask. Here was the beginning of a love of orchids which lasted for many decades.

Forming a collection from purchases from the few orchid nurseries of those days, plus plants from orchid auctions, the beginning for a future orchid nursery was being assembled.

Eventually he bowed to progress and used his private collection as a basis for the nursery business. The home was built on a large block overlooking Bexley gully, with a sheer drop to the roadway below. Being on a slope the ground was readily terraced and benches were installed. Here was a marvellous situation for the growing of cymbidiums — good air movement and uninterrupted sunlight.

I well remember visiting Frank when his cymbidiums were in full bloom in the outdoor shadehouse and in the large glasshouse showroom. Here was a sea of living colour which I can still recall today, so many years later.

Quality and service was the principle which was adhered to at all times, Frank being proud of his business ethics. Having joined The Orchid Society of New South Wales, he took a great inter-



Frank Slattery wearing his Order of Australia Medal

est in judging and became a Judge. There were no judging classes in those days and associates learned the craft by "hands on" methods.

With the amazing expansion of the cultivation of cymbidiums principally in NSW and the proliferation of suburban societies, a need for more judges became obvious. Our friend proceeded to run judging classes at the nursery for many years, aided by many qualified judges from the society. In due course these folk became recognised by the OSNSW and joined the main panel of judges and serviced the many local shows.

After serving on the OSNSW committee for many years Frank was elected as President and guided the society on sound business lines. During a second three year term the OSNSW bid for and was awarded the sixth World Orchid Conference to be held in Sydney in 1969, resulting in Frank being appointed Show Chairman, a rare honour.

To learn and at the same time obtain "hands on" information of the procedures involved, our friend twice travelled to the United States of America (at his own expense), leaving nothing to chance. The organising committee worked hard and well and those who participated in the conference have many happy memories of the magnitude of the conference show, held in the Moscow Circus tent and staged in the Sydney Domain.

To improve the quality of his stock Frank became a representative of Stewart's Orchids of California and many

quality cymbidiums and cattleyas were imported. McBeans of England was also a source of top class varieties. A cracker orchid *Cym. Burgundian* 'Bexley', a beautiful pink, always stood out at shows. He made many friends growing top class cymbidiums and always had little difficulty in acquiring an elusive variety.

Apart from his orchid interest Frank was also involved in the Bexley Rotary Club, being awarded a Paul Harris Fellow in 1969. Rockdale Municipal Council recognised Frank's valuable contribution to the local community by declaring him "Citizen of the Year" in 1985.

An interest in the Australian Orchid Council resulted in him being Registrar General of Judging 1964-67, Vice President 1976-77, President 1979-81 and a member of the Board of Referees 1984. In 1967 he was awarded an Honorary Fellowship of the Council.

Frank was the recipient of many Life Memberships, silver and gold medals, citations and illuminated addresses galore. Space does not allow for them all to be recorded here although special mention must be made of the Order of Australia Medal awarded to Frank for his services to the orchid community, a great honour indeed.

During so many years of orchid activities and overseas visits to World Orchid Conferences, Frank was supported by his loving wife Jean who is also an O.A.M. recipient, and a qualified floral art Judge, in addition to being a top class competitor of earlier days.

A eucharistic celebration of Frank's life was conducted at St Gabriel's church at Bexley which was well attended by many relatives and orchid friends.

During the service an address was made by the President of Bexley Rotary, followed by a heartfelt eulogy given by John Harris, President of The Australian Orchid Council, who flew from Adelaide for the service.

Our deepest sympathy is extended to Jean and his daughters Audrey and Yvonne, and their families on their sad loss.

We shall remember Frank for his ready smile, his integrity in his business dealings and his wish to help others. Farewell dear friend and God Bless.

**Fred Jones**  
Five Dock, NSW



# Out of this World: *Cym.* Stargards

## Part 2 of the *Cym.* Winter Fair Heritage

by Greg Bryant

**T**he first article in this series looked at the results achieved from *Cym.* Winter Fair line breeding, in particular the *Cym.* Gardalvin legacy as traced through the *Cym.* Lovely Angel line. This article will look at the outstanding success obtained from another *Cym.* Gardalvin line — the *Cym.* Stargards.

*Cym.* Lone Star 'Mr Scott' came from a cross made by John and Melita Gulbis at Cecil Park Orchids using *Cym.* Baltic 'Fay' and *Cym.* Stanley Fouraker 'Cecil Park' in the 1970's. In 1983 Alvin Bryant crossed *Cym.* Lone Star 'Mr Scott' with *Cym.* Gardalvin 'Angel'. In Alvin's 1984 Flask Seedling List he described the expectancy as follows — *"Two sparkling white tetraploids with fine shape and straight racemes, combined to give June and July expectation with aesthetic labellums."* This cross gave Bryants Orchids a number of very good seedlings and we subsequently registered the cross as *Cym.* Stargard. The two best *Cym.* Stargards we flowered were *Cym.* Stargard 'Sunset' and *Cym.* Stargard 'McAngel'.

*Cym.* Stargard 'Sunset' has extremely good shape and an eye-catching beautiful



*Cym.* Stargard 'Sunset' — a truly remarkable parent

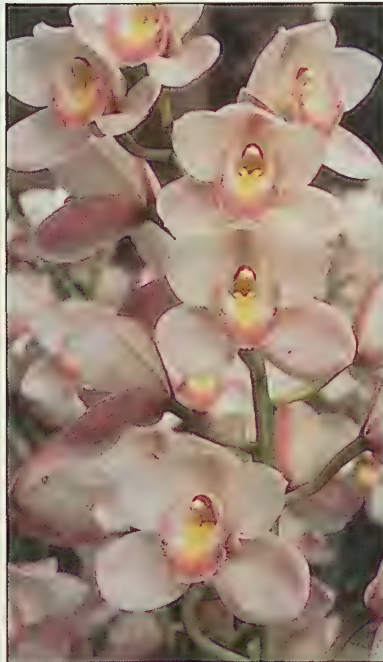
labellum. The yellow centre and red edge of the labellum provides an aesthetic and very desirable contrast. 'Sunset' is a good grower with upright spikes that will carry up to 26 medium- sized flowers in July and has proven to be an excellent parent. Four crosses that spring to mind are *Cym.* Joanstar (x Joan of Arc), *Cym.* Star Paradise (x Paradise Wonder), *Cym.*

Thundergod (x Sylvan Star) and *Cym.* Poetic Ghost (x Poetic Fair). As you would expect, the *Cym.* Joanstars are mid to late season flowering whilst the *Cym.* Thundergods, *Cym.* Star Paradises and *Cym.* Poetic Ghosts are early. Common to all these crosses is a high content of good shape and stunning labellums.

The *Cym.* Thundergod cross was made



*Cym.* Thundergod 'Thor' — compact standard cymbidiums like 'Thor' will be in great demand for the pot-plant markets



*Cym.* Joanstar 'Sensuous' — good shape and an appealing labellum are combined in 'Sensuous' and many other *Cym.* Stargard progeny



*Cym.* Joanstar 'Enigma' — varieties such as 'Enigma' will set the new benchmark for commercial varieties



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## CYMBIDIUMS AUSTRALIA



*Cym. Star Paradise 'Tequila' — from Cym. (Stargard 'Sunset' x Paradise Wonder 'White Dawn'), 'Tequila' has an outstanding labellum*

in 1990 using *Cym. Stargard 'Sunset'* with *Cym. Sylvan Star 'Edzell'*. The pick of the *Cym. Thundergods* that we flowered was *Cym. Thundergod 'Thor'*. Subject to environmental temperature, 'Thor' can flower as a pure white concolour through to a white with pink blush labellum. *Cym.*

*Stargard 'Sunset'* and some of its progeny are affected by environmental temperatures and colder conditions result in more pigmentation in flower segments and the labellum. Temperature staining should not be confused with sunstaining which is seen on the outer surface (or back) of



*Cym. Poetic Ghost 'Eve' — Cym. Winter Fair line breeding at its best. 'Eve' combines beauty with productivity.*

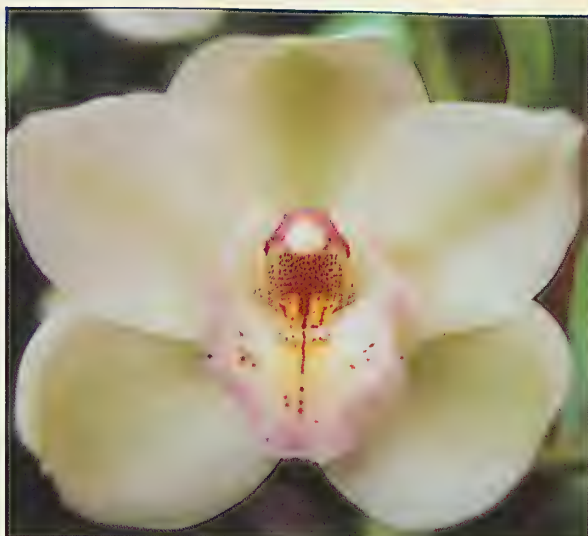


*Cym. (Poetic Ghost 'Eve' x Paradise Wonder 'White Dawn') — this seedling shows the potential of 'Eve' as a parent*





*Cym. Star Paradise 'Sandra'* — from *Cym. (Stargard 'Sunset' x Paradise Wonder 'White Dawn')*, 'Sandra' is free from sun and cold staining



*Cym. Star Paradise 'Shady'* — from the same cross as 'Sandra' and 'Tequila', but a soft green colour, 'Shady' provides a new line of green breeding

sepals. Warmer conditions will tend to give cleaner sepal and petal colours but less red or pink in the labellum and 'Thor' is a good example of this. An important 'Thor' characteristic is small growth habit which is more compact than most intermediate cymbidiums. The shape of 'Thor' is very good and while the flowers are not large, the small bulbs can multispikes and carry up to 24 blooms per stem in July.

*Cym. Joan of Arc 'Olivine May'* is a very pretty late season flower but it rarely carries more than 12-13 blooms per stem. The *Cym. Stargard* influence was essential for a successful outcome in the *Cym. Joanstar* cross. *Cym. Joanstar 'Sensuous'* is a productive mid season bluish white with tall stems that will carry up to 18 or so aesthetic, large blooms. The labellum colour is alluring. *Cym. Joanstar 'Enigma'* is a reasonably compact plant that will produce at least two to three spikes per bulb. The stems are long and straight with up to 24 almost concolour white blooms in September. The *Cym. Joanstar* cross has been quite rewarding.

The *Cym. Poetic Ghost* cross was just another impressive example of success from *Cym. Winter Fair* line breeding. *Cym. Poetic Ghost 'Eve'* is an extremely vigorous grower and super productive. The *Cym. Winter Fair 'Crystal'* influence on both sides of the parentage has ensured multi-spiking bulbs and flower counts in the twenties. *Cym. Stargard 'Sunset'* has also been responsible for the large yellow-centred labellum. In the 1999 season we flowered seedlings from crosses using *Cym. Poetic Ghost 'Eve'* as a parent for the first time. They were just two years from the flask. As I sit writing this (7th April 2000) there are a number of 'Eve'

seedlings open or just opening. Using two superior parents always increases the potential for good progeny.

*Cym. Star Paradise 'Tequila'* is perhaps the epitome of classic beauty in cymbidiums. The individual flower has excellent segment shape and a magnificently

coloured labellum. Unlike the other *Cym. Stargard 'Sunset'* progeny described, 'Tequila' isn't a fast grower and it doesn't carry more than 14 blooms. The growth is compact but 'Tequila' would never be suitable as a commercial variety. Despite its faults, wouldn't you agree that 'Tequila'

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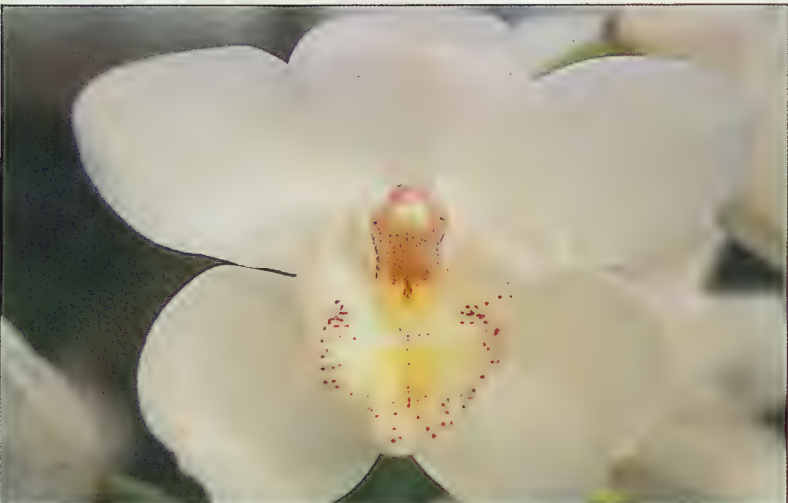




*Cym.* (Stargard 'McAngel' x Lovely Angel 'Ava') 'Primo' — an example of 'McAngel's' progeny



*Cym.* Stargard 'Cistine' — a different *Cym.* Gardalvin parent to *Cym.* Stargard 'Sunset' but a fine early flower that is giving another generation of good progeny



*Cym.* Star Paradise 'Enticing' — from *Cym.* Stargard 'Cistine' and *Cym.* Paradise Wonder 'White Dawn'. 'Enticing' produced two spikes from its first bulb

has enough very desirable traits to warrant its use in a breeding program?

As well as *Cym.* Stargard 'Sunset', *Cym.* Stargard 'McAngel' has given some pleasing progeny when used in our breeding program. 'McAngel' has the following attributes that led to us cloning it for cut-flower production: a) crystal, non-staining white colour; b) good spike habit and high flower counts with perfect flower arrangement on the stem; c) vigorous growth; d) multiple spiking bulbs; e) long lasting when cut; f) good flower shape. **Unlike some, I believe that shape is important for commercial varieties and this will become increasingly evident in the future.** Refer to the picture of *Cym.* (Stargard 'McAngel' x Lovely Angel 'Ava') 'Primo' for an example of 'McAngel' seedlings.

The last *Cym.* Stargard to discuss is *Cym.* Stargard 'Cistine'. Unlike the other *Cym.* Stargards mentioned, 'Cistine' resulted from the 1989 crossing of *Cym.* Lone Star 'Mr Scott' with *Cym.* Gardalvin 'Errol'. This year we have mericlones of 'Cistine' flowering. What is amazing is that they are just over two years from flask and many have two spikes and two growths coming from their first bulb. The normal flowering time for 'Cistine' is from early May. The spike habit is upright and straight but not tall. Flower counts can be up to 15 per stem on mature plants but usually average about 10-12 per stem. 'Cistine' is a fine shape with pure white non-staining segments and yellow-centred pink-edged labellum. As a parent it has immense potential. Last season a number of its progeny flowered only two years from flask. One was taken to the August 1999 meeting of the New South Wales Orchid Society as an example of the contribution (in this case *Cym.* Lone Star) that the Gulbis's and Cecil Park Orchids made to *Cymbidium* development. The seedling had the second spike from the same side of its first bulb in flower at the time. Its varietal name is 'Enticing' and it came from *Cym.* (Stargard 'Cistine' x Paradise Wonder 'White Dawn'). This year it has two spikes and two growths coming from its second bulb. So in its third year from the flask, it will have produced a total of at least four spikes and four bulbs!

All flowers are beautiful but some are more so than others. The *Cym.* Winter Fair heritage is there for all to assess, not just in white cymbidiums but in yellow, green and pink cymbidiums as well. In my opinion few cymbidiums have contributed more to *Cymbidium* development than *Cym.* Winter Fair 'Crystal'. This heritage will continue beyond our lifetimes and well into the next millennium. ■

**Greg Bryant**  
22 Cook Street  
Kurnell, NSW 2231



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*Hosted by the Cymbidium Orchid Society of Victoria*

**Ararat Arts Activity Centre – Town Hall – Barkly St – Ararat – Victoria**

## 9th & 10th September 2000

**Update:** All the planning and hard work has been done to bring all Cymbidium enthusiasts and orchid lovers what I believe will be the best National Cymbidium Orchid Show, held in conjunction with the Australian Cymbidium Orchid Festival, ever held.

The Show Schedule includes 14 Champion Classes and 14 Display prizes, with 100 individual Classes. This is the largest Show Schedule offered for a single

genus anywhere in the world. As well as the Show Schedule prize money, all display stands that meet the Show Committee's requirements will receive cash bonuses. The Champion prizes and Display prizes are supported by a number of very generous individuals, companies and orchid nurseries. The major sponsors for the National Cymbidium Orchid Show and Australian Cymbidium Orchid Festival are Van Schaik's Bio-Gro Pty Ltd

and Scott's Australia Pty Ltd and, The Rural City of Ararat respectively. The National Cymbidium Orchid Show 2000, held in conjunction with the Australian Cymbidium Orchid Festival, ranks with the best and gets better each year.

The National Cymbidium Orchid Show 2000, held in conjunction with the Australian Cymbidium Orchid Festival, will be held in the Arts Activity Centre located at the Ararat Town Hall on the

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BRONZE SASH	\$150

**DISPLAY - Commercial Section**

**SPONSORED BY** Cymbidium Club of South Australia  
 Peter Chiles Orchids - SA.  
 Colonial Lodge Ararat - VIC.

SILVER SASH	\$200
BRONZE SASH	\$150
BRONZE SASH	\$150

**DISPLAY - Hobbyist Section - Large Display (2.5m x 2m and over)**

**SPONSORED BY** Cymbidium Club of Western Australia  
 Battack Orchids - NSW.  
 Ezi-Gro Orchids - WA.

SILVER SASH	\$200
BRONZE SASH	\$150
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**DISPLAY - Hobbyist Section - Small Display (2m x 2m and under, with a maximum of 9 pot plants)**

**SPONSORED BY** Cymbidium Society of Victoria  
 Dean Roesler - SA.  
 Mt Ararat Motor Inn - Ararat VIC.

SILVER SASH	\$200
BRONZE SASH	\$150
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Clockwise from top left: 1) Ararat Court House built in 1866. 2) Old Ararat Post Office and sub-Treasury built in 1861. 3) Old Gaol built in 1860. 4) Langi Morgala Museum, originally the Wool Store, built in 1874.

weekend of the 9th and 10th September, 2000. The Town Hall, built in 1898, presents a venue with an environment and majesty worthy of cymbidiums. The Show and Festival are a joint venture between the Rural City of Ararat, the Australian Cymbidium Society Inc. and the Cymbidium Orchid Society of Victoria. The *Cymbidium* orchid is at its most colourful in the spring and the Ararat

Town Hall will be transformed into a floral extravaganza on this weekend in September. It is difficult for me to explain the unique atmosphere that surrounds this premiere *Cymbidium* event and all I can say is that you have to be there to believe it.

Local artists and other local craft people help to create a festival atmosphere and the Ararat Art Gallery, which is attached to the

Town Hall, will be open during the weekend. Oasis Crystal from Elmhurst will have a display at the festival and the Oasis Crystal Studio/Gallery Tearoom is just a short drive along the Pyrenes Highway between Ararat and Avoca. They have a large range of high quality art and craft available, along with their own range of hand made lead crystal. A visit to Oasis Crystal to meet Geoffrey and Brenda Dickinson will enhance your knowledge of the art of crystal glass-blowing (demonstrations will be given on this weekend). Geoffrey is one of a few Australian glass-blowers who work with lead crystal. The Ararat Woodturning Club will also present a display of their craft work at the Festival.

A new attraction for visitors to Ararat this year will be "Gum San" the Chinese heritage museum and cultural centre. This museum adds to the many other tourist attractions already established in Ararat. These include the unique Langi Morgala Museum, containing the Mooney collection of aboriginal artefacts. The infamous J-Ward, newly restored, formerly the Ararat County Goal and Institute for the Criminally Insane is an inimitable place to visit (and there is no truth in the rumour that a number of *Cymbidium* exhibitors spent some time in this facility).

Ararat was the host of the inaugural National Cymbidium Show, held in 1996, and in the year 2000 the National Cymbidium Show returns to its place of origin. This is a must event for all orchid enthusiasts as the National Show, after this one, is not scheduled to return to Victoria until 2004.

Ararat (known as The Orchid City), has a fine collection of cymbidiums for visitors to see and buy. Ararat is the Gateway to the Grampians National Park which has numerous tourist attractions and is a well-known wine region. Combined with the National Cymbidium Orchid Show 2000, being held in conjunction with the Australian Cymbidium Orchid Festival, this would make an outstanding destination for a weekend break. A number of commercial *Cymbidium* growers will be selling their wares at the show and many exclusive releases and the latest mericlones and seedlings will be on offer. Van Schaik's BIO-GRO Pty Ltd, well-known for their superior orchid bark, will also have an information and sales area at the festival. A 3' garden trolley, donated by S&E Bato Glasshouse Equipment will be the major raffle prize. I feel that this event would make a great social outing for you and I hope you can travel to Ararat to join us and share in the enjoyment of this special event. For more information you can telephone David Allen on (03) 9789 1501.

David Allen  
COSV Show Manager

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# Have Toothpick – Will Dream

Text and photography by Noel Grundon

## In The Beginning

At some stage, most hobby *Cymbidium* growers get the urge to take up their toothpick and dream of creating their own cross that will be the star of the *Cymbidium* world. Some 35 years ago I was bitten by the orchid bug. About 25 years ago I too decided, like Cervantes (Don Quixote) in “Man of La Mancha”, to follow my own impossible dream with toothpick in hand.

While it has been an uphill battle because of lack of access to the better breeding clones, it has been fun and I have learnt much about *Cymbidium* orchids along the way. If I had my time over, I would do it all again – just for the sheer fun and excitement of seeing the first flowers open on a new cross that was all my own work.

## Setting The Objectives

From articles by experienced hybridisers, I knew that you should not cross any two plants just because they were in flower at the same time. You needed to have a plan and a set of objectives you wished to achieve. So I set my objectives, and while they have been slightly modified over the years, they remain mainly the same. What I am seeking are miniature and intermediate cymbidiums that have:

- 1) Clean, clear-coloured flowers that do not stain in the sun;
- 2) Upright, self-supporting inflorescences (I dislike pendulous and arching inflorescences);
- 3) At least 15 flowers, and preferably 20+ flowers per inflorescence;
- 4) Two or more inflorescences per new season bulb;
- 5) Sequential flowering on the same bulb over 2 or more seasons (what Alvin Bryant calls the multi-spiking characteristic); and,
- 6) Extension of the flowering season, especially earlier into February to April.

To this list has been added another objective since I have moved from Toowoomba to Atherton – to incorporate a high tolerance to heat stress during flower initiation and flower development.

## Early Problems With Ploidy

In the early 1970's and through into the mid-1980's, little was known about the ploidy of miniature and intermediate cymbidiums, although much was known about the ploidy of the standards. Knowledgeable authors such as Milton Carpenter, Patricia Rowland, Emma Menninger, Syd Monkhouse, and Paul



*Cym. Jimbo Tupp 'Stevie'* (*pumilum* x *Emperor*)  
Owner: N Grundon. Hybridiser: Riverdeen



*Cym. Bill Hardgrave 'No.6'* (Jimbo Tupp x Winter Wonder)  
Owner: N Grundon. Hybridiser: W L Hardgrave

Miller suggested that the first generation miniatures were diploids when made with diploid standards, or triploids when made with tetraploid standards. Further breeding with first generation diploid miniatures produced second generation diploid intermediates when diploid standards were used, or triploid intermediates when tetraploid standards were used. Tetraploid miniatures and intermediates were very rare. Milton Carpenter listed *Cym. Mimi* 'Sandalwood' (*pumilum* x *Doris Aurea*) and *Cym. Sazanami* 'Giant' (*pumilum* x *Shokei*) as the only tetraploid miniatures known in 1970 (confirmed by chromosome counting). By 1977, *Cym. Peter Pan* 'Greensleeves' and *Cym. Miss Muffett* 'Agate' were known to have been converted to tetraploid forms using colchicine. Unfortunately, even today, chromosome counts or stomatal measurements have not been reported for many of the breeding clones of miniature and intermediate cymbidiums. If their exact ploidy is known, that information is closely held by their owners, perhaps quite rightly because it may be commercial business-only information. However, I can not help wondering about the stated ploidy of many plants in nursery lists – are they based on their ability to produce fertile seed (and therefore assumed to be tetraploid) or are they based on chromosome counting or stomatal measurements.

Without access to chromosome counting or to stomatal measurements to estimate ploidy, I began by assuming that genetic theory would hold – diploid miniatures and intermediates would breed between themselves and with diploid standards to produce fertile seed, and any seedlings would be diploids. From this theory, and because of the lack of proven tetraploid miniatures, it became logical that I should concentrate on making diploid intermediates. The fact that early hybridisers regarded a success rate of 3% as good production did not worry me. After all, I was using a number of first and second generation clones that were listed as parents in nursery lists, and should have no problems. The few successes I had in the first decade came from a small number of clones only – from the first generation hybrids *Cym. Early Style* 'Cobb', *Cym. Golden Elf* 'Sundust', *Cym. Jimbo Tupp* 'Stevie', *Cym. Princess Marina* 'Cobb', *Cym. Sarah Jean* 'Jodie Leanne', and *Cym. Sarah Jean* 'Sprite', and the second generation hybrid *Cym. Amesbury* 'Frank Slattery'. Why was this so? Where had



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genetic theory failed?

Also, why were their seedlings with diploid standards very reluctant to breed on to another generation? When a fertile cross was found, it was usually one between a known tetraploid standard and an assumed diploid first generation miniature. Why was this so?

While many articles often listed similar results in breeding programs for miniature and intermediate cymbidiums, none gave a sensible explanation. Then when I was searching through some back issues of The Orchid Advocate, I found an article by Don Wimber on the production of polyploid progeny from diploid parents. Wimber suggested that some clones of diploid hybrids between *Cym. pumilum* and diploid standards may produce polyploid or 2n pollen or ovules because of incomplete reduction division during meiosis. He listed the diploid *Cym. Sweetheart* 'Pinkie' as producing polyploid ovules with 40 chromosomes, and cited another instance when the primary hybrid *Cym. Minuet* (*pumilum* x *insigne*) may have produced 2n and 4n pollen. A clone of the first generation hybrid *Cym. Flirtation* (*pumilum* x *Zebra*) was found to produce a very high percentage of polyploid pollen containing 40 chromosomes (that is, 2n). Other first generation or pri-



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*Cym. Peter Dragon* (Pendragon x Peter Pan)  
Owner/Hybridiser: N Grundon

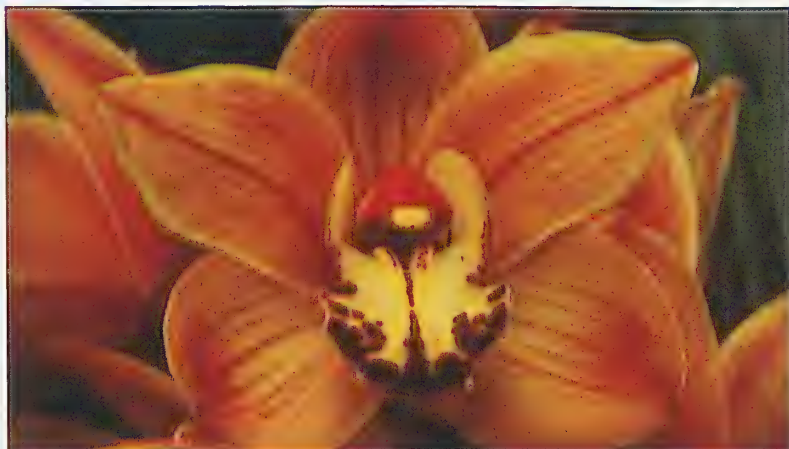


mary hybrids were examined and were found to produce non-functional pollen grains because of irregular chromosome separation during meiosis. Wimber suggested that many of the second and third generation hybrids may have been produced by this method of breeding via polyploid pollen and ovules.

In my case, it seems that the first and second generation miniatures and intermediates were breeding by producing limited amounts of polyploid (probably 2n) and haploid (n) pollen or ovules. Subsequent stomatal measurements on a number of seedlings have shown that when these assumed diploid miniatures were crossed with the diploid standards, mainly sterile triploids with very few fertile tetraploids were produced, but when crossed with tetraploid standards, a higher proportion of fertile tetraploid seedlings with a few sterile triploids were being produced. The question now was what should I do about all those crosses between the diploid miniatures and the diploid standards? It was a decade lost. Into the wheelie bin went whole batches of seedlings, but I could not part with a few nice seedlings even if they were infertile, such as *Cym.* Jim Bex 'Cobb' (Jimbo Tupp 'Stevie' x Bexley Radiance 'Bexley'), *Cym.* Jim Downs 'Cobb' (Jimbo Tupp 'Stevie' x Downs Delight 'Trim'), and *Cym.* Conarina 'Orange Queen' (Princess Marina 'Cobb' x Rincon 'Clarisse').

### The Tetraploid Phase

I now concentrate on producing a higher proportion of tetraploid miniatures and intermediates by crossing the fertile first generation hybrids with tetraploid standards or intermediates from known tetraploid breeding lines. At this point I must acknowledge the assistance I have received from three people, the late Bill Hardgrave then of Flora Culture, Roy Lee of Lee's Orchids, and Alvin Bryant of Bryant's Orchids. Bill Hardgrave arrived in Toowoomba from New Zealand in the early 1980's with the intention of starting up a nursery to produce intermediate cymbidiums. We cooperated from the beginning by exchanging parent plants and pollen. His untimely death in 1993 put a big brake on my progress because I then lost access to a large population of flowering seedlings. Roy Lee provided me with plants of what was then known as *Cym. pumilum* 'Tetsugetsu'. This plant is certainly not the species *Cym. pumilum* but a primary hybrid. It had been used widely by Lee's Orchids and Wondabah to produce a number of crosses and was highly fertile. It is now considered to be a *Cym.* Jessie Blakiston (*pumilum* x Carisona), although there are some people who have doubts



*Cym.* Conarina 'Orange Queen' (Princess Marina x Rincon) Owner/Hybridiser: N Grundon

that this is the true parentage. The 'Tetsugetsu' story is an interesting one in itself and is worth a separate article because of its intrigue and because *Cym.* Jessie Blakiston 'Lee' now plays a very important role in my efforts to incorporate heat tolerance into my breeding program.

Alvin Bryant has been generous to so many people by providing them with pollen from his many tetraploid standard stud plants. I was fortunate to be one of these people, and without his help my program would not have progressed in the manner it has. Alvin always said he was not interested in breeding the miniature and intermediate types, but as you can see from the following list, my breeding program over the last 15 years has drawn heavily on pollen from his breeding bank of select tetraploid stud plants.

The breeding bank has been completely revamped by incorporating seedlings of *Cym.* Sue (Peter Pan 'Greensleeves' 4n x Showgirl 'Glamour Jane'), *Cym.* Zeeham (Early Bird 'Pacific' x Peter Pan

'Greensleeves' 4n), and *Cym.* Showoff (Rincon 'Clarisse' 4n x Showgirl 'Glamour Jane'), and clones such as *Cym.* Peter Pan 'Greensleeves' 4n, *Cym.* Pendragon 'Broadmoor', and *Cym.* Mimi 'Sandalwood'. A number of tetraploid clones (confirmed by stomatal measurement) were located from my own breeding, including:

*Cym.* Kurnell (Jimbo Tupp 'Stevie' x Yamba 'Nancy Shaw')

*Cym.* Bill Hardgrave (Jimbo Tupp 'Stevie' x Winter Wonder 'Crystal Ball')

*Cym.* Jim Winter (Jimbo Tupp 'Stevie' x Winter Paradise 'High Peak')

*Cym.* Jim Winter (Jimbo Tupp 'Stevie' x Winter Paradise 'Diana')

*Cym.* Jim Rose (Jimbo Tupp 'Stevie' x Vieux Rose 'Del Park')

*Cym.* Pilton (Jimbo Tupp 'Stevie' x Poetic 'Andre')

*Cym.* Sylvan Pen (Pendragon 'Broadmoor' x Sylvan Lake 'Louise')

*Cym.* Peter Tong (Peter Pan 'Greensleeves' 4n x Tongariro 'Flare')



*Cym.* Jim Winter 'Cobb' (Jimbo Tupp x Winter Fair) Owner: N Grundon. Hybridiser: W L Hardgrave





*Cym. Off Beat 'Pink'* (Sylvania x Showoff) Owner/Hybridiser: N Grundon

*Cym. Jessie Sue* (Jessie Blakiston 'Lee' x Sue 'Norma')

*Cym. Jess Winter* (Jessie Blakiston 'Lee' x Winter Fair 'Crystal')

*Cym. Jess Stewart* (Jessie Blakiston 'Lee' x Fred Stewart 'Olympus')

*Cym. Jess Tong* (Jessie Blakiston 'Lee' x Tongariro 'Flare')

*Cym. Middlemen* (Showgirl 'Marion Miller' x Musely)

*Cym. Show Time* (Showgirl 'Glamour Jane' x Sylvania 'Sonnet')

*Cym. Off Beat* (Showoff 'Cobb' x Sylvania 'Sonnet')

*Cym. Sylvan Show* (Showgirl 'Marion Miller' x Sylvan Lake 'Louise')

*Cym. Mimi Stewart* (Mimi 'Sandalwood' x Fred Stewart 'Olympus')

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### Some Failures

Perhaps the greatest failure has been the low success rate of fertile seedlings. Beginning at less than 3% fertile pollinations in the late 1970's, the success rate increased to about 10% in the 1980's, and is now between 20% to 30% because I am working with a higher proportion of proven clones. This is still low, and I do not know how to overcome it. I find that a plant that held every pollination done in one year may hold only 10% the next year. Perhaps I need to pay more attention to my culture. On the other hand, carrying a set of pods may place too much strain on the plant, and it may need to be rested for a year before being used again in the breeding program.

The infusion of the tetraploid standards into the breeding program had an immediate impact by increasing the plant size. I was aiming to produce intermediates with a plant no larger than that of the *Cym. Showgirl* clones. However, many of the seedlings between the large-growing tetraploid standards and the first and second generation miniatures are as large as any standard *Cymbidium* in plant size. To overcome this effect, I have tried to use small-growing tetraploid standards if possible. This has meant going to *Cym. Sylvania 'Sonnet'* and its seedlings such as *Cym. Show Time* (x *Showgirl 'Glamour Jane'*) and *Cym. Off Beat* (x *Showoff 'Cobb'*). While this may result in a smaller plant size, the down side may be a decrease in flower number. The larger-growing seedlings from the large tetraploid standards consistently produce 25 to 40 flowers per inflorescence, but the smaller-growing seedlings with *Cym. Sylvania 'Sonnet'* parentage have usually produced between 10 and 15 flowers per inflorescence.

### Some Successes

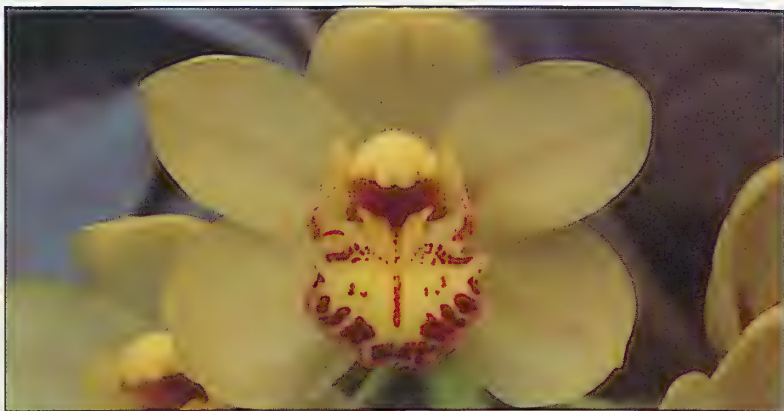
Although *Cym. Peter Pan 'Greensleeves'* 4n seedlings can have muddy colours, some clean-coloured yel-



lows and greens were produced in the *Cym. Peter Tong* cross (x *Tongariro* 'Flare'). With *Cym. Pendragon* 'Broadmoor', *Cym. Peter Pan* 'Greensleeves' 4n gave the cross I registered as *Cym. Peter Dragon*. The clone 'Cobb' is a clean, pale green with a self-supporting upright inflorescence. Because of its large growth habit, I have used *Cym. Pendragon* 'Broadmoor' sparingly. With *Cym. Sylvan Lake* 'Louise' (*Sylvania* x *Palaker*) it produced *Cym. Sylvan Pen* 'Cobb' that has pale pink flowers of acceptable shape and more than 20 per inflorescence.

I have used *Cym. Amesbury* 'Frank Slattery' sparingly also because of its large plant size. However, with *Cym. Poetic* 'Andre' it has produced some very nicely shaped whites like *Cym. Poetic Ames* 'Top Notch'. An interesting outcome of the *Cym. Poetic Ames* cross is that plant size is smaller than that of both parents, but I have been unable to breed on to another generation with any of the seedlings.

*Cym. Sue* (Showgirl x *Peter Pan* 'Greensleeves' 4n) was hailed as a breakthrough for high quality early intermediates, but I have found them to be poor parents even though other hybridisers have had good success with them. *Cym. Sue* 'Easter Bride' and 'Maytime Magic' have been reluctant breeders and have failed to produce any worthwhile seedlings for me. *Cym. Sue* 'Norma' is a seedling I purchased and although it has good flower shape, its colour is a muddy off-cream.



*Cym. Poetic Ames* 'Cobb' (Amesbury x *Poetic*) Owner/Hybridiser: N Grundon

When crossed with *Cym. Jessie Blakiston* 'Lee', *Cym. Sue* 'Norma' produced the well-shaped *Cym. Jessie Sue* 'Red Ball' that is being trialled as a parent of early season reds and pinks.

Bill Hardgrave remade the *Cym. Middlemen* (Showgirl x *Musley*) cross, and a number of very useful white intermediates have been selected to use in the breeding program. Another *Cym. Showgirl* 'Glamour Jane' seedling, *Cym. Showoff* 'Cobb' (x *Rincon* 'Clarisse' 4n) was crossed with *Cym. Sylvania* 'Sonnet' to produce the *Cym. Off Beat* cross. Although there was a large wastage, one seedling, *Cym. Off Beat* 'Cobb' was outstanding for shape and a good even pink colour. However, the low flower count of *Cym. Sylvania* 'Sonnet' came through, and *Cym. Off Beat* 'Cobb' rarely has more than 10 flowers per inflorescence even though *Cym. Showoff* 'Cobb' can have over 20 flowers per inflorescence. When *Cym. Sylvania* 'Sonnet' was crossed with *Cym. Showgirl* 'Glamour Jane' to give the *Cym. Show Time* cross, flower numbers were generally much better, being from 10 to 15 per inflorescence.

The greatest success to date has come by using *Cym. Jimbo Tupp* 'Stevie' (*pumilum*

x *Emperor*) with tetraploid clones from Alvin Bryant's breeding program. The better seedlings from *Cym. Jimbo Tupp* 'Stevie' include the whites *Cym. Pilton* 'Blush' and 'Joanna' (x *Poetic* 'Andre'), the pink *Cym. Jim Hill* 'Cobb' (x *Pink Hill*), *Cym. Jim Cherry* 'Pink Mist' (a pink) and 'No.2' (a white) from a cross with *Cym. Valley Flower* 'Cherry Ripe', and the pink clones 'Dusty Pink' and 'Cobb' from the *Cym. Jim Rose* cross (x *Vieux Rose* 'Del Park'). When crossed with *Cym. Wallara* 'Gold Nugget', only a few quality creams and pale yellows have resulted in the *Cym. Jim Wall* cross. The *Cym. Jim Winter* cross (x *Winter Paradise* 'Diana' and 'High Peak') produced white to pink intermediates that would be useful in the cut-flower or florist trade, but 'High Peak' seemed to produce a higher proportion of better quality flowers. One 'High Peak' seedling, *Cym. Jim Winter* 'Top Notch', has the best shape of any seedling I have flowered to date. It also has short leaves that are carried stiffly upright, a characteristic that I would like to transfer to more of my crosses. However, it has a somewhat bunched inflorescence, with only the top third of the 20 to 30 flowers being above the leaves.



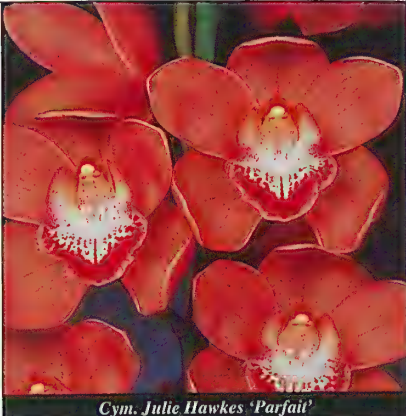
*Cym. Jessie Sue* 'Red Ball' (*Jessie Blakiston* x *Sue*) Owner/Hybridiser: N Grundon

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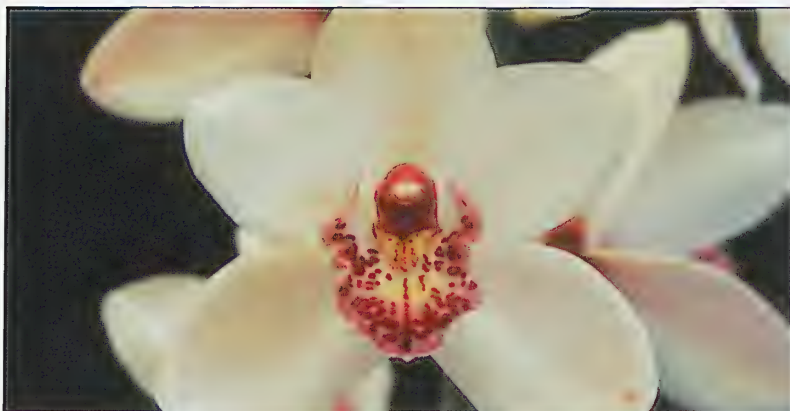


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*Cym. Julie Hawkes* 'Parfait'





*Cym. Middlemen 'Goliath' (Showgirl x Musely) Owner: N Grundon. Hybridiser: W L Hardgrave*

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- V. Pure Love 'At Last' AM/NZOS
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- X. Pure Love 'Mellow Yellow'
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The most consistent cross for flower quality has been that between *Cym. Jimbo* Tupp 'Stevie' and *Cym. Winter Wonder* 'Crystal Ball'. This cross was made by the late Bill Hardgrave and was registered as *Cym. Bill Hardgrave* in his memory. Most of the seedlings are worthy of keeping for cut flower and pot plant work, and the better clones are of show bench standard. The main colours are white, cream, yellow and pale green.

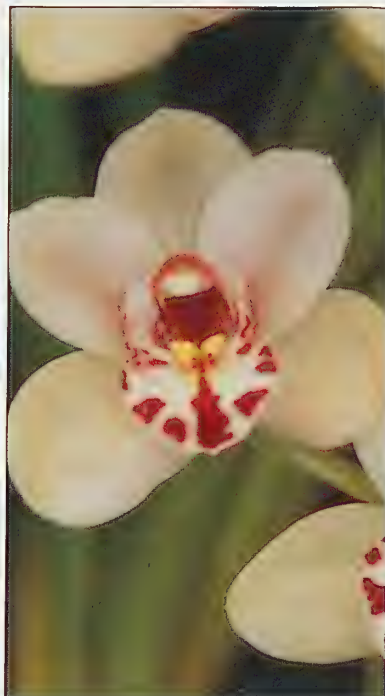
### The Future

When I look back over the Sage Cymbidium of the Year awards to miniature and intermediate cymbidiums, I see some stunning plants such as *Cym. Sweet Treat* 'Annalise' CE/CCSA, *Cym. Willunga Royal* 'Orange Delight' CE/CCSA, *Cym. Sleeping Sharon* 'Nicole' and *Cym. Ruby Parker* '105'. I am aware that the overall quality of many of my intermediate crosses do not reach the high standards set in recent years by the likes of Geyserland Orchids, Atlantis Orchids, Guest Orchids, and Schaefer's Orchids. I may never flower the quality of plants such as *Cym. (Pendragon x Arcadian Melody)* 'Halo', *Cym. Dragon Song* 'White Opal', or *Cym. One Tree Hill* 'John's Quest' HCC-CC/OSCOV. But what the heck, I will have fun and enjoyment trying. Dream on . . .

Noel Grundon

PO Box 1234

Atherton, Queensland 4883



*Cym. Pilton 'Blush' (Jimbo Tupp x Poetic) Owner/Hybridiser: N Grundon*



# Van Schaik's BIO-GRO Pty Ltd

Proud Sponsor of the National Cymbidium Orchid Show 2000

by Peter Itzerott

## Company Background

Since 1966 Hans Van Schaik has had more than a "hobby" interest in soils and growing mediums. From the early 1970's he witnessed bark and mill residues dumped and used in various forms as land fill and always believed that these organic-based residues could and should be value-added. At the time Hans and his wife Marjan operated a prominent and successful earth-moving company and in his spare time Hans continued to develop his "hobby" interest not realising then that in the future it would form the basis of a



Hans and Marjan Van Schaik. Company Founders and Directors

greenfields Australian industry and become his life's work.

Against popular opinion at the time, Hans began to accumulate bark products and timber residues in a large disused quarry on a recently purchased twelve acre property in the heartland of South Eastern South Australia's Radiata Pine plantation forests. At this site approximately 10,000 cubic metres of timber and bark residue was stored and aged by Hans who, together with his two young sons, spent weekends trialling, testing and evaluating bark-based potting mix mediums, soil conditioners and landscape products. To this day Hans and his sons are actively

involved in all facets of operations and research and development projects.

The increasing need for specialised equipment soon became apparent and with none available Hans manufactured his own product screening plants which are continually upgraded and refined, placing group operations at the "cutting" edge of technology within the industry.

By 1992 the original twelve acre site was fully utilised and operational, with an increasing client base and the decision was made to sell off the earth-moving operations and focus full time on full scale pro-



On-site management quality inspection of screened product

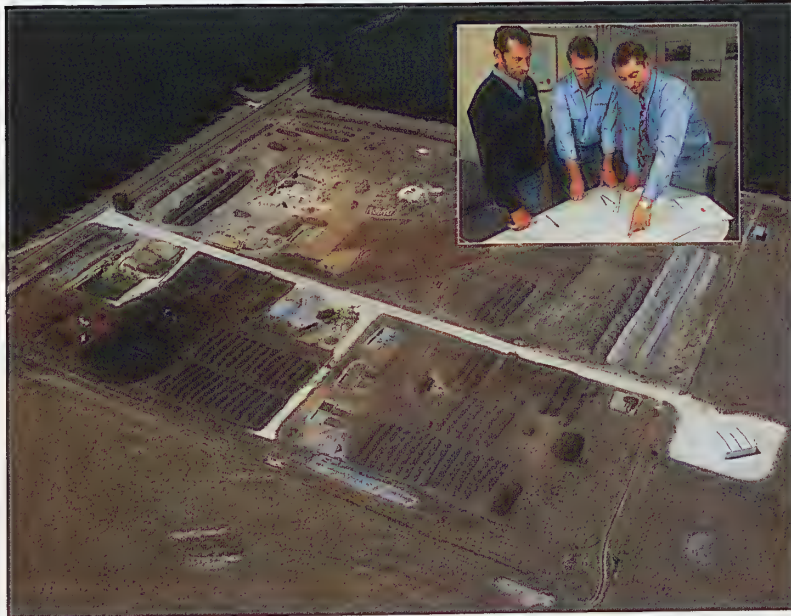


Modern packaging and operational facilities

duction of organic soils and bark products. A second site was established on seven acres in nearby Mount Gambier and this was regarded as the first serious step into value-adding of various growing mediums and assorted landscape products. After some 26 years Hans's one time "hobby" had now become the family business.

On April 1st 1995 Van Schaik's BIO-GRO Pty Ltd was formed to provide specific direction for packaged product lines, as distinct from volume supply lines.

In June 1996 it was decided to centralise all re-manufacture operations to a recently purchased centralised site on 100 acres at



Hans, Stephen and Anthony Van Schaik viewing future plans of the 100 acre manufacturing and composting facility situated in the heartland of Australia's Radiata Pine plantations at Wondilo near Mount Gambier in South Australia. The facility, the biggest of its kind in Australia, incorporates Van Schaik environmental BIO-TECH engineering and industry services, involving organic recycling, composting systems, plant and equipment hire



Van Schaik BIO-GRO 28 acre State-of-art operations, Mount Gambier, South Australia



Wandilo, South Australia, where all future product receiptal, landscape bark and composting operations would be carried out involving volume supply.

In April 1997 the ultra-modern ex-South Australian government Scrimber facility in Mount Gambier, South

Australia, was purchased to facilitate all operational aspects of the company which continued to experience growth of exponential proportions. The site was to become the company's new headquarters with 11,000 square metres undercover and covering 28 acres.

## Hans Van Schaik.... National Austimber 2000 Award Winner for the most outstanding contribu- tion to the Forestry Industry of Australia

### Background to the awards

The composting and processing of organic and forest residues converted into value-added landscape products and mulches and the development of renewable bark-based professional growing mediums for nurseries are Hans's most outstanding contributions to the forest industry.

Hans continues pushing horizons today with product research and development

programs which have earned him national and international acclaim.

The world forestry day awards were first held in Tasmania in 1995. The annual awards were established to celebrate forest industry achievements and to ensure recognition for people who have provided innovative and outstanding contributions to the industry.

In 1999 with the support of JIV HOO-HOO International club members, it was agreed to take the awards into a national arena with nominations being received from all states.

Six eventual nominees from all states were nominated for meritorious effort, with Hans Van Schaik emerging as the proud but humble recipient of the Austimber 2000 award for the most outstanding contribution to the timber industry.

In July 1997 the company purchased an established Potting Mix manufacturing business in Montrose in the outer suburbs of Melbourne, Victoria, to satisfy Victorian customers involved in horticultural markets based in the Dandenong Ranges and the Mornington Peninsula.

In 1999 Van Schaik's BIO-GRO was approached and subsequently agreed to take on national sales of Osmocote controlled release fertiliser products produced by the USA-based Scott's company.

In January 2000 an additional three acre site was leased in Melbourne in response to customer demand for landscape barks and organic growing mediums.

The company has forged both a national and international customer base involving a total of 1,000,000 cubic metres of raw material at any given time, and in excess of 500,000 cubic metres of processed products per annum. The company manufactures 50 bulk product lines and has established contract packaging agreements for a further 80 product lines.

Peter Itzerott  
5 Queens Avenue  
Mount Gambier, SA 5290

# The Jinjerra Story

by Brian Blackley

In the early 1990's Hodgins Orchids from Victoria advertised a crossing from their famous FCC awarded *Cym. Jubilation* 'Geronimo'. The cross was *Cym. Jubilation* 'Geronimo' x *Ovation* 'No.24' 4n). Bob Hodgins acknowledged that 'Geronimo' had proven a difficult orchid to breed with and so had restricted the sale of seedlings to ten per customer. I purchased ten seedlings believing it would produce some good results, and this was subsequently proven to be correct. One of the seedlings *Cym. Jinjerra* 'Jill' was shown by Moss Bray at the 1999 Australian Cymbidium Festival held in Ararat. Unfortunately both the name and the parentage published in the article *Eye-catching Orchids at Ararat 1999* in the April/May issue of AOR were incorrect. This prompted me to write to the Editor's of *Cymbidiums Australia* to help put the record straight. By the way, I have included a picture with this story of an even better variety from this grex called *Cym. Jinjerra* 'Desiree'.

Wanting to mericlone and breed with 'Desiree' I approached Bob Hodgins to inquire if he was going to register the cross. He indicated he wanted it called *Cym. Justification*. In the meantime,

Grant Garrett flowered and had awarded a seedling from the same cross. Aware of Bob's wish the awarded orchid soon became known in "orchid circles" as *Cym. Justification* 'Highclere'. Since the cross still hadn't been registered I decided to do something about it myself and sent the completed forms to the International Registration Authority for Orchid Hybrids during 1997 - unaware that Grant Garrett had done the same a

month or so before. When I received notification of the registration I was shocked to see that the cross *Cym. Jubilation* x *Ovation* had been registered as *Cym. Jinjerra* my second choice, because the name *Cym. Justification* had already been taken. Grant had mistakenly sent the wrong parentage *Cym. Jubilation* x *Borough Green* for registration! And so the orchid that was supposed to be called *Cym. Justification* is now called *Cym. Jinjerra* (an indigenous word used as a street name in Pambula Beach).

Brian Blackley  
39 Lakeview Avenue  
Merimbula, NSW 2548



*Cym. Jinjerra* 'Desiree'



# Cymbidium Orchid Society of Victoria

## April and May 2000 Meetings Report

Text by Carolin Allen – Photography by Sean Moore & Ken West

### April's Meeting

Following a welcome to members from our President, the evening's cultural discussion began with the subject of Charcoal Powder being used as a disinfectant for fungus and rot as one of our members had recently seen a reference to it in an overseas publication. Some of our experienced growers remembered this treatment, but had not used it for a number of years. A witty member suggested that by using it there may be the possibility of producing a black orchid!

Terry Poulton gave a brief talk on how to prepare plants for showing as everybody has spikes appearing and the show season is fast approaching. He suggested that you begin putting stakes in the pots as you see the spikes coming up and to commence training them as early as possible to make the job easier. He uses a peg placed at the top of the stake with horticultural elastic (or hat elastic) attached between the peg and the spike for the purpose of applying a suitable tension to the growing spike(s) to achieve an upright display. (More information about this process, written by Terry and entitled *All Trussed Up!*, was published in the February 1999 issue of the *Australian Orchid Review*). Cleaning up your plants for exhibition was discussed, with particular emphasis on cutting leaves. If the removal of parts of leaves is necessary then using the label of each plant was strongly recommended, in preference to any other cutting implement, to help control the spread of any virus in your collection. Terry advised caution, bearing your pets in mind, when putting snail bait around and also that Rose Dust is effective for controlling other insect invaders of your orchid house.

The evening's main item was a very informative talk on species cymbidiums by Vic Pearce. To orchid growers in Victoria he is known to be a walking encyclopaedia on species orchids and very helpful to anyone wanting a bit of advice. His presentation is intended to be featured as an article in the Cymbidium Section of the *Australian Orchid Review* in the near future.

As you would expect for the time of year a sparse collection of cymbidiums were benched on the night with the win-



*Cym. Peter Pan 'Greensleeves'.* Photo by Sean Moore.

ners being as follows: **Judges Vote** - *Cym. Peter Pan 'Greensleeves'* exhibited by J&A Leamon; **Best Open Section** - *Cym. Peter Pan 'Greensleeves'* exhibited by J&A Leamon; **Best Intermediate Section** - *Cym. Play Misty 'Pink Dawn'* exhibited by N&F Allison; **Best Species** - *Cym. dayanum* exhibited by F&J Coker; and, **Best Seedling, Best Intermediate Flower and Best Seedling Overall** - *Cym. Choc (Chocolada x Peter Pan)* exhibited by Ern Kettle.

### May's Meeting

On arrival we found our members once again ferrying pots of plants out to their cars. Our friends from South Australia, Moss Bray and Murray Weston, were here for their annual visit with a van load of community pots and flasks for sale, and it was nice to see them again. Also visiting was Clive Halls of Mt Beenak Orchids, our guest speaker for the night, who had plants for sale too, so there were plenty of goodies for members to select as additions to their collections.

With the volume of the audio system inadvertently on full Andy certainly got everybody's attention for the start of the meeting, which commenced with show



*Cym. Choc (Chocolada x Peter Pan).* Photo by Sean Moore.



news and an important reminder that accommodation is becoming very limited for the weekend of the national show at Ararat. Our Secretary, Kevin Brown, and his wife Lois are currently away on their trip to the Northern Territory (intending to be back in time for Ararat), with Dennis Scheele acting as Secretary in his absence.

Trevor Williams gave an overview of a computer database he has developed to keep track of plants in an orchid collection. Information on their history, flowering habit, etcetera, can be conveniently entered and printed. If anyone is interested in buying a copy the cost is \$25.00 and any enquiries may be forwarded to our Secretary who will pass them on to Trevor.

The May meeting was the last chance to bench our competition plants of *Cym. Stargard 'Cistine'*. Plants of all sizes were benched in pots of all sizes and, commendably, a couple of them were in spike! We thank Greg Bryant of Bryant's Orchids for donating a piece of the original plant as a prize for the raffle to be drawn at the conclusion of this plant competition – the lucky winner being Alan Witnish. Extra draws were held for Biggest Plant, Smallest Plant, Largest Spike and Least Healthy Plant (exemplified by an empty pot)! These winners all happily received their small prizes.

Clive Halls spoke to members about growing orchids in sphagnum moss. Clive and his wife Agi are the owners of Mt Beenak Orchids, situated at Three Bridges in Victoria. The small collection



*Cym. erythrostylum 'Magnificum'*. Photo by Ken West.

of plants potted in AUSTMOSS brought in for our inspection included a variety of genera, to better indicate the versatility of sphagnum moss as a potting medium. Clive advises that this medium is best for young plants and small plants and that pots need to be packed quite tightly (which can become a bit expensive if using large pots). Imported from Tasmania, AUSTMOSS comes in various bags and bundle sizes and small samples of the different grades were distributed for members to look at. Clive

uses hammer-milled moss which he finds works well as a potting medium for miniature type cymbidiums in small pots, with the moss's moisture retentive qualities being of particular advantage in the summer months. Clive advised that observing live, healthy, sphagnum moss coloured a nice shade of green in your pots is a convenient indication that light levels and general growing conditions are ideal for cymbidiums (and moss). Clive found that sphagnum moss does best using fertiliser at quarter strength and that heavy doses of fertiliser will kill it. The examples he brought along showed that the smaller and sometimes more difficult to grow plants can do very well when potted in sphagnum moss.

There was an excellent benching of species cymbidiums with so many brought in that the Judges decided to break then up into separate sections. The winners for the night were as follows: **Judges Vote, Best in the Open Section and The Best Species** - *Cym. tracyanum* 'C & D' exhibited by C&D Allen – this plant was also awarded a COSV Certificate of Excellence for Culture; **Best Intermediate Section** - *Cym. erythrostylum* 'Magnificum' exhibited by A&W Witnish; **Best Novice Section** - *Cym. Loch Lomond* 'Mem. J B Russon' exhibited by T Williams; and, **Best Seedling** - *Cym.* (Tracey Reddaway x Earlisue) exhibited by J&A Leamon. ■

Carolyn Allen

18 Wooten Crescent

Langwarrin, Victoria 3910



*Cym. tracyanum* 'C&D'. Photo by Ken West.



## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>New South Wales</b>				
5-6 August	9.30am-5.00pm	Spring	Gosford & District	Gosford Showground Showground Road, Gosford
16-19 August	Shopping Centre Hours to 4.00pm Sat	Spring	Leisure Coast	Westfield Shopping Centre Warrawong
18-19 August 20 August	9.00am-5.00pm 9.00am-12 noon	Spring	Sapphire Coast Orchid Club	Twyford Hall Merimbula
19 August	10.00am-4.30pm	Spring	Bellingen Valley	Community Church Hall Hyde & Ford Streets, Bellingen
29 August- 2 September	9.00am-5.00pm	Spring	South Coast	Corrimal Court Princes Highway, Corrimal
30 August- 2 September	Shopping Centre Hours	Spring	Alstonville	Alstonville Plaza Alstonville
30 August- 2 September	Shopping Centre Hours	Spring	Cumberland Orchid Circle	Winston Hills Mall Cnr. Caroline Chisholm Drive & Langdon Road, Winston Hills
31 August- 4 September	9.00am-6.00pm	Spring	Central Coast- Hunter Region Cymbidium	Flora Festival Mt. Penang
1 September 2 September	10.00am-4.30pm 9.00am-3.30pm	Spring	Eurobodalla Orchid Club	CWA Hall Queen Street, Moruya
2 September 3 September	10.00am-5.00pm 9.30am-5.00pm	Spring	Shoalhaven	Berry Agricultural Hall Berry
3-9 September	Shopping Centre Hours	Spring	Fairfield District	Wetherill Park Stockland
4-9 September	Shopping Centre Hours	Spring	Eastwood & District Orchid Circle	Macquarie Shopping Centre Talavera Road, North Ryde
6-9 September	Shopping Centre Hours	Spring	Central Coast- Hunter Region	Wallsend Shopping Plaza Wallsend
7-8 September 9 September	9.00am-5.00pm 9.00am-4.00pm	Spring	Nambucca Valley	Entertainment Centre Ridge Street, Nambucca Heads
7-9 September	Shopping Centre Hours	Spring	Tweed District	Tweed City Shopping Centre South Tweed Heads
7 September 8 September 9 September	10.00am-6.00pm 8.30am-5.30pm 8.30am-2.30pm	Spring	Upper Hunter	Lancaster's Showroom John Street Singleton
7-10 September	8.30am-8.30pm	Spring	Ballina & District	Ballina Fair Shopping Centre Ballina
8-9 September	TBA	Spring	Byron District	Ex Servicemens Club, Mullumbimby
9 September 10 September	11.00am-5.00pm 9.00am-5.00pm	Spring	Blue Mountains & Penrith District	The Melrose Hall, Cnr/ Park Street & Great Western Highway, Emu Plains
9 September 10 September	11.00am-5.00pm 9.00am-4.30pm	Spring	Griffith	Wade High School Poole Street, Griffith
16 September	11.00am-3.30pm	Spring	Gloucester & District	Gloucester Bowling Club Park Street, Gloucester
11-13 September	9.00am-5.30pm	Spring	Manning River	Manning Mall Shopping Centre, Taree
14-15 September 16 September	9.00am-9.00pm 9.00am-2.30pm	Spring	City of Lismore	Lismore Central Shopping Centre Carrington Street, Lismore
14-17 September	Shopping Centre Hours	Spring	Hawkesbury District District	Richmond Marketplace March Street, Richmond
15 September 16-17 September	11.00am-4.00pm 9.00am-4.00pm	Spring	Woodburn	Woodburn Memorial Hall Pacific Highway, Woodburn
21-23 September	Shopping Centre Hours	Spring	Grafton District	Grafton Shopping World Cnr. Duke & Fitzroy Streets Grafton
22 September 23 September	9.00am-5.00pm 9.00am-4.00pm	Spring	Casino & District	RSL Hall Canterbury Street, Casino
23 September 24 September	11.00am-TBA 9.00am-TBA	Spring	Wagga Wagga	Sturt Public School Lake Albert Street, Wagga Wagga
30 September 1-2 October	9.00am-4.00pm	Spring	Camden Haven	Catholic Church Hall Ocean Drive, Laurieton
30 September- 1 October	9.00am-4.00pm	Spring	Great Lakes	Forster Primary School Head Street, Forster
1 October	9.00am-4.00pm	Spring	Southern Riviera	Milton Showground Croobyar Road, Milton
5-6 October	9.00am-5.00pm	Spring	Sapphire Coast	Bega Town Hall, Zingel Place, Bega
6-8 October	TBA	Spring	Tweed District	Club Banora, Leisure Drive, Banora Point
7 October	9.00am-3.00pm	Spring	Species Orchid & Carnivorous Plant Society Illawarra	St Aidan's Anglican Church Hall Mt Brown Road, Dapto



## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>Queensland</b>				
17-19 August	8.00am-5.30pm	Spring	Maroochydore	Kawana Shoppingworld, Kawana
24-26 August	Shopping Centre Hours	Spring	Pine Rivers	Deception Bay Market Deception Bay Road, Deception Bay
25-27 August	8.00am-4.00pm 8.00am-3.00pm	Spring	Logan & District	Centre for the Aging Jacaranda Avenue, Woodridge
26 August	9.00am-5.00pm	Spring	North Brisbane	The Auditorium
27 August	9.00am-4.30pm			Mt Coot-tha Botanic Gardens, Mt Coot-tha
31 August- 2 September	9.00am-9.00pm	Spring	Gold Coast	Parklands Showground (Jupiter's Pavilion) Gold Coast
31 August- 2 September	Shopping Centre Hours	Spring	Townsville & Allied Plants Assoc.	Castletown Shopping Centre
1 September	9.00am-5.00pm	Spring	North Coast	Woombye School of Arts
2 September	9.00am-3.00pm		of Nambour	Woombye
2 September	9.00am-5.00pm	Spring	Childers & Isis	Cultural Centre
3 September	9.00am-12 noon		District	Churchill Street, Childers
2 September	8.30am-5.00pm	Spring	Orchid Species	Auditorium
3 September	8.30am-6.00pm			Mt Coot-tha Botanic Gardens, Mt Coot-tha
6-9 September	Shopping Centre Hours	Spring	Redcliffe District	Peninsula Fair Kippa-Ring
7-9 September	TBA	Spring	Innisfail	Central Arcade, Innisfail
7-9 September	Shopping Centre Hours	Spring	West Moreton Orchid Group	Ipswich City Square Ipswich
7-9 September	Shopping Centre Hours	Spring	Tweed District	Tweed City Shopping Centre South Tweed Heads
8-10 September	9.00am-4.00pm	Spring	Queensland	Auditorium Mt Coot-tha Botanic Gardens, Mt Coot-tha
9-10 September	9.00am-5.00pm	Spring	Maribyrnong	Maribyrnong Community Centre Randall Street, Maribyrnong
12-17 September	9.00am-4.00pm	Spring	Chinchilla	RSL Hall, Heeny Street, Chinchilla
14-16 September	Shopping Centre Hours	Spring	Mackay & District	Caneland Shoppingtown Mackay
14-15 September	9.00am-6.00pm	Spring	Lockyer Valley	Laidley Cultural Centre
16 September	9.00am-3.00pm			Plainlands Road, Laidley
15 September	8.30am-5.30pm	Spring	Noosa District & Foliage	Cooroy Memorial Hall Cooroy
16 September	8.30am-5.00pm	Spring	Eastern District	Wondall Heights State School Hall
17 September	8.30am-3.30pm			Wondall Road, Manly West
16 September	9.00am-5.00pm	Spring	West Brisbane	Auditorium
17 September	9.00am-4.00pm			Mt Coot-tha, Botanic Gardens
17-18 September	Shopping Centre Hours	Spring (Water Festival)	Ayr & District	Burdekin Centrepoint Mall Ayr
21 September	9.00am-3.00pm	Spring	Douglas	CWA Hall, Mossman
21-22 September	8.30am-5.00pm	Spring	Maryborough	St Paul's Memorial Hall
23 September	8.30am-1.00pm		District	Adelaide Street, Maryborough
21-23 September	Shopping Centre Hours	Spring	Tully & District	Retravision Butler Street, Tully
22-29 September	8.30am-5.00pm	Spring	Toowoomba & Native	St Paul's Lutheran Church Hall Phillip Street, (Between James & Eton Streets) Toowoomba
23-30 September	8.30am-5.00pm	Spring	Darling Downs Orchid Assoc.	Centenary Heights Assembly Hall Cnr. South & Ramsay Streets, Toowoomba
29 September	9.00am-6.00pm	Spring	Glasshouse Country	Community Hall
30 September	9.00am-2.00pm			Simpson Street, Beerwah
29 September	9.00am-5.00pm	Spring	Townsville	T.O.S. Hall
30 September	8.00am-5.00pm			Pioneer Park
1 October	9.00am-4.00pm			Townsville
5-7 October	9.00am-5.00pm closes 12 noon Saturday	Spring	Blackwater & District	Blackwater Town Centre
5-7 October	Shopping Centre Hours	Spring	Pine Rivers	Aspley Hypermarket Gayford Road, Aspley
6 October	9.30am-5.00pm	Spring	Tweed District	Club Banora
7 October	10.00am-4.00pm			
7-8 October	9.00am-4.00pm	Spring	Bribie Island	Bribie Island Indoor Bowls Club Hall First Avenue, Bribie Island



## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
12 October	9.00am-9.00pm	Spring	Bundaberg	Hinkler Place Shopping Centre
13 October	9.00am-5.30pm			Maryborough Street,
14 October	9.00am-1.00pm			Bundaberg
12 October	8.30am-9.00pm	Spring	Southport & Districts	Burleigh Town Market Place
13-14 October	8.30am-5.00pm			Shopping Centre
Victoria				
18-20 August	Shopping Centre Hours	Spring	OSCV	Collector's Corner/Gardenworld Springvale Road, Keysborough
26 August	10.00am-5.00pm	Spring	Gippsland Orchid Club	Kernot Hall
27 August	10.00am-4.00pm			Princes Way, Morwell
26-27 August	9.30am-5.00pm	Spring	The Victorian Orchid Club	Red Cross Centre, Austin & Repatriation Medical Centre, Heidelberg Campus Gate 7, Bell Street, Heidelberg
2 September	9.30am-5.00pm	Spring	Sale & District Orchid Club	St Mary's Hall
3 September	10.00am-4.00pm			Cnr Macalister & Pearson Streets,Sale
9 September	9.00am-5.00pm	Spring	Cymbidium of Victoria	Arts Centre
10 September	10.00am-4.00pm			Ararat
15-17 September	Shopping Centre Hours	Spring	Sunraysia Orchid Club	Mildura Centre Plaza Shopping Complex Cnr Deakin Avenue & 15th Street, Mildura
16 September	10.00am-4.30pm	Spring	North East Melbourne	Bulleen Heights School
17 September	10.00am-4.00pm			Pleasant Road, Bulleen
16-17 September	9.00am-4.00pm	Spring	Southern Suburbs	NG Wishart Senior Citizens' Hall Cnr Exley Drive & Neapean Highway Moorabbin
16 September	9.30am-4.30pm	Spring	West Gippsland Orchid Club	West Gippsland Arts Centre
17 September	9.30am-4.00pm			Warragul
16 September	9.00am-5.00pm	Spring	Bairnsdale & District Orchid Group	St Mary's Parish Hall
17 September	9.00am-4.00pm			Pyke & Nicholson Streets, Bairnsdale
17-24 September	Shopping Centre Hours	Spring	Cymbidium of Victoria	The Glen Shopping Centre Springvale Road, Glen Waverley
22-23 September	9.30am-4.30pm	Spring	South Gippsland Orchid Club	Town Hall Baillieu Street, Wonthaggi
23 September	9.00am-5.00pm	Spring	Melbourne Western	Werribee Racecourse
24 September	9.00am-4.00pm			Bulban Road, Werribee
23 September	10.00am-4.00pm	Spring	Mid-Murray Orchid Club	Memorial Hall
24 September	10.30am-3.30pm			Nolan Street, Kerang
23 September	9.00am-6.00pm	Spring	Maroondah	Blackburn High School
24 September	9.00am-4.00pm			Williams Road, Blackburn
23 September	9.00am-5.00pm	Spring	Melbourne Eastern	Mr Waverley Community Centre
24 September				Miller Crescent, Mt Waverley
23 September	10.30am-5.00pm	Spring	Wangaratta & District	Ovens College Assembly Hall
24 September	10.00am-4.00pm			Greta Road Wangaratta
23-24 September	9.30am-5.00pm	Spring	Warringal	St Sava Community Hall 212 Diamond Creek Road, Greensborough
23 September	10.30am-4.30pm	Spring	Warrnambool District	Warrnambool College Hall
24 September	11.00am-4.00pm			Grafton Road, Warrnambool
23-24 September	10.00am-4.00pm	Spring	Berwick	Senior Citizens' Hall 112 High Street, Berwick
29 September-8 October	Shopping Centre Hours	Spring	Cymbidium of Victoria	Como House Cnr Chapel Street and Toorak Road South Yarra
30 September	9.00am-5.00pm	Spring	Stawell	Entertainment Centre (Town Hall)
1 October	9.00am-4.00pm			Main Street, Stawell
30 September	10.00am-5.00pm	Spring	Gippsland	Catholic Regional College
1 October	10.00am-4.00pm			Kosciusko Street, Traralgon
5 October	9.00am-8.00pm	Spring	Mornington Peninsula	Church of Christ Hall
6 October	9.00am-4.00pm			130 Cranbourne Road Frankston
6-7 October	9.00am-5.00pm	Spring	Australian Native	Karalyka Centre
8 October	9.00am-4.00pm			Mines Road, Ringwood
6 October	1.00pm-5.00pm	Spring	Bendigo	YMCA Leisure Centre
7 October	9.00am-5.00pm			Browning Street
8 October	10.00am-4.00pm	Spring	Albury Wodonga & District	Kangaroo Flat
7 October	9.00am-5.00pm			Albury Coursing Club
8 October	9.00am-4.00pm	Spring	Colac	Borella Road, Albury
7 October	11.00am-4.30pm			Colac High School Assembly Hall
8 October	10.30am-4.00pm			Princes Highway, Colac West



## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
8-14 October	Shopping Centre Hours	Spring	Ringwood	Eastland Shopping Centre Maroondah Highway, Ringwood
14 October	8.00am-4.00pm	Spring	Cobden	Civic Hall
15 October	9.00am-3.30pm			Victoria Street, Cobden
14 October	9.00am-5.00pm	Spring	Horsham	Horsham Town Hall
15 October	9.00am-4.00pm		& District	Wilson Street, Horsham

### South Australia

13-19 August	Shopping Centre Hours	Spring	Northern & Eastern District	Modbury Triangle Shopping Centre North East Road Modbury
1-9 September	Royal Adelaide Show Hours	Spring	Orchid Club of SA	Centennial Hall Wayville
10-16 September	Shopping Centre Hours	Spring	Northern & Eastern District	Cnr Mullers & North East Roads Greenacres
15 September	9.00am-5.00pm	Spring	Port Augusta Orchid Club	Gateway Shopping Complex Port Augusta
16 September	9.00am-3.00pm			
15 September	12 noon-4.00pm	Spring	Murray Bridge & District Orchid Club	Town Hall Bridge Street, Murray Bridge
16-17 September	10.00am-4.00pm			
16 September	10.00am-5.00pm	Spring	Native Orchid of SA	St Peter's Town Hall Payneham Road, St Peters
17 September	10.00am-4.00pm			
16-23 September	Shopping Centre Hours	Spring	Whyalla Orchid Club	Westland Shopping Centre Whyalla
18-23 September	Shopping Centre Hours	Spring	Gawler District Orchid Club	Elizabeth Town Centre Gawler
24-30 September	Shopping Centre Hours	Spring	Northern & Eastern Districts	Northpark Shopping Centre Main North Road, Prospect
7-8 October	10.00am-4.30pm	Spring	Orchid Club of SA	Carrick Hill Manor House Carrick Hill Drive, Springfield

### Western Australia

8-9 September	10.00am-4.00pm	Spring	Augusta & Districts	Margaret River Cultural Centre Wallcliffe Road, Margaret River
12-16 September	Shopping Centre Hours	Spring	Melville Districts	Bullcreek Shopping Centre Bullcreek
13-16 September	Shopping Centre Hours	Spring	Peel Region	Mandurah Forum Shopping Centre Pinjara Road, Mandurah
28-29 September	8.30am-5.30pm	Spring	Albany	North Road Shopping Complex Albany
30 September	8.30am-1.00pm			

### Tasmania

29 September	1.30am-7.00pm	Spring	Launceston	Railway Tram Shed Invermay Road Launceston
30 September	10.00am-6.00pm			
1 October	10.00am-4.00pm			
6-8 October	TBA	Spring	Devonport	Maidstone Park Memorial Hall Spreyton
12-14 October	9.00am-6.00pm	Spring	Burnie	Burnie Civic Centre Burnie
15 October	9.00am-4.00pm	(15th Australian Orchid Conference)		

### ACT

23 September	11.00am-5.00pm	Spring	Canberra	St John's Hall
24 September	12.00noon-5.00pm			Constitution Avenue, Reid

### Northern Territory

16-17 September	9.00am-5.00pm	Spring	Litchfield Orchid Club	Marrara Stadium Darwin
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### New Zealand

22 September	11.00am-5.00pm	Spring	Whangarei	Forum North Exhibition Hall
23 September	9.00am-5.00pm			Forum North
24 September	10.00am-4.00pm			Whangarei
30 September	10.00am-5.00pm	Spring	Canterbury	Canterbury Horticultural Society Riccarton Avenue, Christchurch
1 October	10.00am-4.00pm			
30 September	10.00am-5.00pm	Spring	Hawkes Bay	Havelock North Community Centre 30 Te Mata Road, Havelock North
1 October	10.00am-4.00pm			Hawkes Bay
7 October	10.00am-5.00pm	Spring	Nelson	Hampden Street School Hall, Nelson
8 October	10.00am-4.30pm			
13 October	11.00am-6.00pm	Spring	Wairoa	Presbyterian-Methodist Hall Queen Street, Wairoa
14 October	10.00am-4.00pm			
28 October	10.00am-5.00pm	Spring	Wairarapa Orchid Circle	Town Hall Masterton
29 October				



# Australian Orchid Review

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## From the Editor's Desk



The feature articles keep coming in the *Australian Orchid Review*. This issue we have a definitive paper on the South American genus *Anguloa* — the "Tulip Orchid". This article is abstracted from Henry Oakeley's forthcoming book "Lycaste, Ida and Anguloa — the Essential Guide". I am sure you will agree that the photography is simply outstanding, making identification easy. Rudolf Jenny has again contributed a piece, this time on the very rare and recently described *Stanhopea maduroi* from Panama. It appears that only three or four plants have ever been found of this species.

Jim Cootes has shared his five favourite orchid species from the Philippines with us. It is always a hard choice to name favourites, but it is hard to argue with his selection — I know that *Vanda javierae* is one of my personal favourites! Alan Stephenson also tells about some very easy to grow species orchids which should be in all collections. Even though many of these are common, they certainly look great when well grown into specimen plants.

The genus *Sarcochilus* has had a surge in interest of late, particularly as we now have a new range of bright colours and patterns coming through with the latest breeding. Frank Simpson, of Simpson Orchids in Queensland, is one of those pioneering the way with many new (and sometimes unusual) combinations. Frank discusses the future of these quaint native orchids. Frances and Eric Wilde from Victoria are well known for growing fine orchids, in particular their *Sarcochilus*. In this issue Frances shares some of her cultivation expertise with our readers.

Just to whet your appetite, the next couple of issues will have major original features (with lots of colour photographs) on the genus *Dracula* and also on albino *Paphiopedilum* species. We have been receiving many positive comments on the quality of the photography in the AOR, which is set to continue.

### Orchid Conferences

October is the month for two major orchid conferences to be held in southern Australia. Firstly there is the 4th Australasian Native Orchid Conference to be held in Melbourne from 5th-8th October to cater for the native enthusiasts. Then the big one — "Orchids in Tiger Country", for the 15th Australian Orchid Conference being held in Burnie, Tasmania from 11th-15th October. This should be a great event. The lecture program features three top class American speakers: Bob Hamilton (Odontoglossums), John Leathers (*Masdevallia* & *Dracula*) and Ron Parsons (Miniature Species). From South Australia, the popular Dean Roesler will speak on Cymbidiums and Nicky Zurcher on Slipper Orchids. Tasmanians Chris Nicholas (Cool Growing Orchids) and Peter Tonelli (Tasmanian Orchids) will also make presentations. And I will also be there, with a new talk on *Sarcochilus* species in the wild and their hybrids. For those attending, make sure you get out to see the fabulous tulip display at Table Cape, and plan a visit to Cradle Mountain — one of the most picturesque places I have ever seen.

### The Ethics of Copyright

We always make every effort throughout the AOR of acknowledge both owners and photographers of plants. When articles are submitted, it is always assumed that the photographers permission has already been obtained — as we physically cannot chase up every picture sent to us. (Particularly where there are no details on the slide!) I am a firm believer in giving credit where due. Growers and photographers should always be correctly credited, be it in a magazine, book, catalogue, greeting card, email or website (just how many photos have been "pinched"?). It's just common courtesy, yet sadly there are those who obviously don't agree with this. ■

David P. Banks

Editor, *Australian Orchid Review*  
dpbanks@ozemail.com.au



## OUR COVER



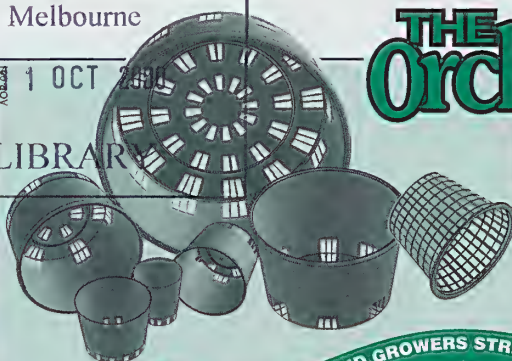
*Cymbidium Pumisan 'Cooksbridge'*

This distinctively coloured intermediate *Cymbidium* was an eye-catching addition to Imre Takacs's display at the National Cymbidium Orchid Show 2000 held at Ararat on the weekend of September 9-10. A full report of this show will be featured in the December 2000/January 2001 issue of AOR.

Photo: Rob Smith

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# *Anguloa* Ruiz & Pavón – a history

Text and photographs by Dr Henry Oakeley

*Anguloa brevibras*





The genus *Anguloa* Ruiz & Pavón was described in *Florae Peruvianae, et Chilensis, Prodrum* (1794):118, t26 (engraving by Felix Prieto) and the type species *Anguloa uniflora* in *Systema vegetabilium Florae Peruvianae et Chilensis* (1798) 1:228. The holotype! and original paintings! by Isidro Gálvez in 1779 and Francisco Pulgar in 1786 (the Prieto engraving is a composite from both) are in the Ruiz & Pavón herbarium, Jardín Real Botánico, Madrid.

A recent revision is available in several languages. Oakeley, H.F. *All Japan Orchid Society Orchids* (10 Feb. 1999) 38:18-38 (Japanese); *Die Orchidee* (1999) 50 (1):21-28, (3):34-42, (4):51-56 (German); *Orquideología* (1999) 159-213 (Spanish & English); *Orchideeën* (1999) 4:63-80 (Dutch); *Orchid Digest* (1999) 63 (4) Supplement:1-32 (English).

#### History of the discovery and description of *Anguloas*

The genus *Anguloa* is one of the few orchids with a popular name, in fact it has at least four in European languages – ‘El Torito’ and ‘Flor de Espiritu Sanctu’ for *Anguloa virginialis*, the ‘cradle orchid’ principally for *Anguloa clowesii*, and ‘the tulip orchid’ for the genus. It received its Latin name in commemoration of Don Francisco de Angulo, Director General of Mines in Peru by the expedition of the Spaniards Hipólito Ruiz López and José Pavón, with the Frenchman Joseph Dombey 1777-1788. While plants of *Anguloa* must have been familiar to the people who lived in South America long before the arrival of Europeans, the story of their ‘discovery’ is based on the perceptions and publications of the European botanists who visited what are now Colombia, Venezuela, Ecuador and Peru, the countries where anguloas are to be found. Ruiz & Pavón gave a full page description of the flower, in Latin and Spanish, with an excellent engraving by Felix Prieto of the flower and the lip, with front and side views of both and two ‘above’ views of the lip, the column, operculum, pollinia, seed pod and seed. The only error is in the pollinia, which is shown with only two pollen masses, instead of four, and having a stipe for each pollen mass, instead of a single stipe.

James Veitch in *A Manual of Orchidaceous Plants* (1893) 9:99, referring to Ruiz & Pavón, notes, rather unfairly, that ‘Owing to the brief diagnosis of the genus given by these authors, and the obscure manner in which it is worded, *Anguloa* remained for half a century a botanical puzzle till the first flowers expanded in the orchid houses of the gentlemen through whose enterprise all the species were introduced.’ Humboldt & Kunth in *Nov. Gen. et Sp. Pl.* (1815) 1:343 t.93 thought that what we now know as *Acineta superba*, syn. *Acineta humboldtiana* should be called *Anguloa superba* despite it having many flowers on a pendulous flower spike.



Top: *Anguloa cliftonii*

Below: *Anguloa clowesii*







*Anguloa clowesii* var. *flava*

Bentham & Hooker in *Genera Plantarum* (1880) 3 (1):548 were clearly unfamiliar with *Anguloa*, for, a century after its discovery, for although they were aware that it had erect flower spikes, they end their description of it with: 'Flos magnus, saepius nutans' (large flowers, frequently nodding) which is one thing these tulip-shaped flowers never do.

The 'gentlemen' that Veitch refers to were all from England, namely, Mr George Barker of Birmingham, Mr Sigismund Rucker of Wandsworth, and the Rev. John Clowes of Birmingham. They were the prin-

cipal financial backers of Jean Linden's expedition from Belgium to Venezuela and Colombia in 1841-1843. Anguloas remained confused until the end of the 20th century, although Williams in *The Orchid Growers Manual* (1894) 7th Edit. probably correctly identified and described *Anguloa eburnea*, *uniflora* and *virginalis* as well as *Anguloa clowesii*, *dubia*, 'ruckeri' and *hohenlohii* although he equated the latter with Lindley's *Anguloa ruckeri* var. *sanguinea*. Schlechter, in Germany, reviewed the anguloas comprehensively in *Orchis* (1916) 10:122-145 but must have lacked



*Anguloa eburnea*

access to English literature (World War I was in progress) as he was unaware of *Anguloa brevilabris* Rolfe, described in 1915. Only five of his nine taxa were correct and his drawings of the lips are so schematic as to require considerable effort to either recognise or to see any significant difference between some of them – but at least he did publish, setting out the accepted knowledge of the day which was useful. His review has never been published in English, which has denied him a wider audience; although his lip drawings were copied and used by Kennedy in the *Orchid Digest* (1976) 40: 132-134.

There are nine anguloas, and three natural hybrids described, but of the latter *Anguloa x ruckeri* (Lindl.) was originally described as a species – causing 150 years of confusion. The story of their discovery and description is recounted here.

1779: *Anguloa uniflora* Ruiz & Pav. was found originally at Tarma in Junin Province, Peru in 1779-80 (Schultes in *The Journals of Hipolito Ruiz* (1998) Timber Press) and in September 1786 at Muna, North East of Huanuco. The genus was described in the *Prodromus* (1794) *op. cit.* and the species in *Systema vegetabilium Florae Peruvianae et Chilensis* (1798). I have found no evidence of it being re-found or in cultivation in Europe until it appeared as *Anguloa uniflora* var. *treveranii* Rolfe in *Lindenia* (1891), VII :47-48, t.310. In this publication there is a not particularly clear chromolithograph, but the short, truncate floral bracts; forward pointing flower; tubular lip; wide, rounded, yellow-tinged lateral lobes; the deflexed callus apex and the curled under mid-lobe are good indicators. All descriptions purporting to be '*Anguloa uniflora*' from 1798 to 1891 are incorrect, as are most of the ones after that except Williams in 1894 as noted above. In life, the flowers are pale yellow when they first open, turning to pale cream and pink with a cream lip, red and yellow internally at the base and with yellow orange lateral lobes.

John Lindley, wrongly identified *Anguloa uniflora* illustrating the taxon we now know as *Anguloa eburnea* in the *Botanical Register* (1844) 30:t.60.

H.G. Reichenbach believed that that *Anguloa uniflora*, was the taxon we know as *Anguloa virginalis*. In describing *Anguloa dubia* in *Gardeners' Chronicle* (1882) 17:764 he writes 'At first sight reminiscent of a lemon coloured *Anguloa uniflora*.' Shape of flower like *uniflora*. There is no vestige of that intrusion on the inferior base that is so conspicuous in *Anguloa uniflora*. 'The latter refers to the kinked base of the lip of *Anguloa virginalis* and the external shape of *Anguloa dubia* is also similar to *Anguloa virginalis* and the comparison of the two flowers only makes sense when one realises he is using *Anguloa virginalis*. If one tries to compare *Anguloa dubia* with either *Anguloa uniflora* or *Anguloa eburnea* one comes to the conclusion that *Anguloa dubia* has the shape of *Anguloa clowesii* –



which it does not.

G. Nicholson in *Dictionary of Gardening* (1885): 79 continues the use of the name *Anguloa uniflora* for *Anguloa virginalis*. R.A. Rolfe in the *Orchid Review* (1909) 17:316-7 pointed out correctly that what had been called *Anguloa uniflora* was *Anguloa virginalis* and the herbarium specimen that he rehydrated for this identification is still to be seen on Lindley sheet Anguloa 007 in the orchid herbarium at Kew.

Schlechter (1916) and Kennedy (1976) thought that *Anguloa eburnea* was the true *Anguloa uniflora*. Even Veitch (1893) whose collector Walter Davis probably found it in Ruiz & Pavón's Muna habitat in circa 1873 has confused it with later importations of *Anguloa eburnea* as judged by his description of the colouring.

Not surprisingly the only other white *Anguloa*, *Anguloa tognettiae* Oakeley (q.v.) was also incorrectly identified as *Anguloa uniflora* in the *Lindenia* in 1887 and the AOS Bulletin in 1974.

It was not until *Die Orchidee* (1994) printed a photo of a plant of *Anguloa uniflora* 'Wössen' belonging to Franz Glanz of Germany that had received a Botanical Silver Medal and a Gold Cultural Medal from the German Orchid Society (Deutsche Orchideen – Gesellschaft) in 1993 that a correctly named 20th Century illustration was published. It was re-discovered in Tarma in 1970 by Klaus von Bismark and David Bennett (unpublished painting and *pers. comm.*, May 2000). It is only known from Peru.

1842: *Anguloa clowesii* (Lindl.), the yellow 'cradle orchid', was discovered by the Belgian Jean Linden in August 1842 near Jaji, in the province of Merida in Venezuela. It was rediscovered shortly afterwards by his collectors Funck, L. Schlim and Wagener. It was brought into cultivation in Europe by Funck and first flowered in the collection of the Rev. J. Clowes of Broughton Hall, Manchester, England in March 1844 (according to Linden in *Pescatorea* (1860) 1:t.17). It was described by Lindley in *Botanical Register* (1844): t.63. This form had a white lip, which is extremely rare. Linden only knew the var. *flava* in 1860 with a yellow lip of which the lateral and mid-lobes are tipped with orange, that was described by A.D.C de Candolle at Kew in the *Botanical Magazine* (1847) 73:t.4313. The latter does not appear to have been out of cultivation since and occurs in Colombia and Venezuela.

1841-3: *Anguloa x ruckeri* (Lindl.) Oakeley was discovered by J. Linden in Venezuela, province of Merida (*Lindenia* (1886) 1:170), in his expedition of 1841-1843. This very rare plant, whose flowers are yellow with red spots, flowered in the collection of Mr. Sigismund Rucker of Wandsworth, a suburb of South London, in the summer of 1844. It was described as a species by John Lindley in 1846, who erroneously gives its origin as Colombia. The



Top left and right: *Anguloa dubia*

*Anguloa hohenlohii*







Above left and right: *Anguloa uniflora*



Below: *Anguloa tognettiae*



name '*Anguloa ruckeri*' has been used for the much commoner dark red *Anguloa hohenlohii* by almost everyone except Calaway Dodson whose photograph in Pridgeon's *Illustrated Encyclopaedia of Orchids* (1992) is *Anguloa x ruckeri* although the description is of *Anguloa hohenlohii*. It was recognised as a hybrid (*Ang. hohenlohii* x *Ang. clowesii*) in *Orquideophilo* (1997), 5 (2):15-16.

1841-43 *Anguloa eburnea* (Williams) with its large, pure white flowers, and lip spotted and barred with pink, flowered in April 1844 in the collection of Mr Barker of Birmingham, England, probably from the collection made by J. Linden in Venezuela. It was this taxon that was wrongly identified and illustrated under the name *Anguloa uniflora* Ruiz & Pavón by Lindley in the *Botanical Register* (1844) 30:t.60. R.A. Rolfe in the *Orchid Review* (1909) 17:316-7 noted that this plant did not look like *Anguloa uniflora* Ruiz & Pavón and thought it was *Anguloa virginalis*. He writes that that the 'smaller and more angular' form of *Anguloa* seen in cultivation, which at that time was being called *Anguloa uniflora*, should be called *Anguloa virginalis* and in this at least he appears to be correct. However he then, incorrectly, put *Anguloa eburnea* into synonymy with *Anguloa uniflora* with the statement 'In fact, *A. eburnea* is the original *A. uniflora*'. He never appears to have seen *Anguloa uniflora* Ruiz & Pavón.

The name *Anguloa eburnea* first appears in Williams *Orchid Growers Manual* (1868), 3rd edit. although it is there, as '*Anguloa uniflora*' in the second edit of 1862. *Anguloa eburnea* was called *Anguloa clowesii* var. *eburnea* by Veitch in his *Manual of Orchidaceous Plants* (1893) 9:100 but correctly illustrated as *Anguloa eburnea* in Warner & Williams in *Orchid Album* (1884) 3: t.133 from a plant in the collection of Sir Trevor Lawrence in England (origin unknown) and John Day who painted it in August 1883. R.A. Rolfe had called this same plant *Anguloa uniflora* var. *eburnea* in the *Lindenia* (1892): t.348 and the same plant was also painted by John Day in August 1883. It has been called *Anguloa uniflora* in most 20th century literature, whether horticultural (Bechtel et al in *The Manual of Cultivated Orchid Species* (1981)), botanical (Dodson et al in *Icones Plantarum Tropicarum* (1989), 2:7) or photographic (Shiraishi Sigeru *Treasury of Native Orchids* (1999)) and including Schlechter (1916).

1844: *Anguloa hohenlohii* Morren was discovered by N. Funck, Linden's collector, in the Venezuelan province of Cumaná, (*Lindenia* (1886), 1:170). Its greeny-brown flowers, dark red internally, were described by Charles Morren in *Belgique Horticole* (1853) 3:201 t.31. It was called *Anguloa ruckeri* var. *sanguinea* Lindl. by Lindley in *Gardeners' Chronicle* (1854):271 and in J. Linden's catalogue of circa 1853 it is named as *Anguloa purpurea*. It was imported (as *Anguloa ruckeri* var. *sanguinea*) by Messrs



Rollinson, of Tooting, London (Veitch 1893). Although the prior naming as *Anguloa hohenlohii* has been often noted, this taxon has been incorrectly called *Anguloa ruckeri* without the varietal name *sanguinea* by almost everyone up to Shiraishi Sigeru (1999).

1851 *Anguloa virginalis* Linden ex Schltr. was reported as being auctioned at one of Messrs Steven's Sales in London in *Gardeners' Chronicle* (1851):392. The type herbarium specimen at Kew came from J. Linden and had been collected by L. Schlim, one of Linden's collectors, in 'New Grenada' Province of Ocana at 1,500 m. in 1851, although he had thought it was *Anguloa uniflora*. Because of continual confusion with *Anguloa uniflora* it is impossible to track the history of its importation from the literature. Its flowers are carried on very long stems (up to a foot – 30 cm – in length), are narrow from side to side and the sepals angular, with splayed out sepals that are finely to coarsely spotted with pink, which some writers call brown. The lip is characteristically kinked at the base. It vies with *Anguloa clowesii* as being the first *Anguloa* to be found after Ruiz & Pavón's expedition, for it was found in Ecuador near Quito by Prof. Jameson at about the same time. He reported that the fanciful resemblance of *Anguloa* to a bull's head gave it its local name of 'el Torito' in the *London Journal of Botany* (1843) 2:658. The herbarium specimen of this *Anguloa*, on the Lindley Herbarium sheet *Anguloa* 005 is in the orchid herbarium at Kew, and is *Anguloa virginalis*. *Anguloa turneri* (now *Anguloa virginalis* var. *turneri*) was found in Colombia by Lehmann in 1881 and described by B.S. Williams in *Orchid Grower's Manual* (1885) 6th ed.: 133 is a dwarf pink form.

1882 *Anguloa dubia* Rchb.f. was described in *Gardeners' Chronicle* (1882)17:764 from a plant of Mr B.S. Williams which he had imported from Colombia. This is confirmed by Williams *Orchid Growers Manual* 6th edit. (1885):131. H.G. Reichenbach also notes in *Gardeners' Chronicle* (1882) 18:102 that it had often been shown by Messrs. Veitch although it is not mentioned by James Veitch in his *Manual of Orchidaceous Plants* (1893). It has a small yellow flower, with a white lip heavily spotted with red. It was painted by Consul Lehmann (painting in Herb. Lehmann 1906 at Kew) in Colombia, but otherwise does not appear (apart from repeating previous reports) in cultivation or the literature until imported in 1905 to Germany from Colombia by K.W. John in 1905 and being in cultivation with Dr H. Goldschmidt in 1916 (Schlechter 1916). It was in cultivation in Colombia 1990 (Escobar in 'Native Colombian Orchids' (1990) 1:35).

1883 *Anguloa brevibras* Rolfe was growing in his collection, when painted by John Day in his *Scrapbook* (1883) at Kew, as *Anguloa ruckeri* var. *retusa*. There is a



Above: *Anguloa virginalis*

Below: *Anguloa x ruckeri*







*Anguloa x rolfei*

Lehmann herbarium specimen dated 1891 at Kew, from Colombia. Rolfe recognised it as a new species in *Orchid Review* (1915), 23:292. When a plant was imported by Sander & Sons and exhibited by them at the Royal Horticultural Society's Holland House Flower Show, in London, in July 6-8 1915 as *Anguloa ruckeri*. Internally it is yellow heavily spotted with red and the lip is white, heavily spotted with red, box shaped and kinked at the base. Summerhayes reported a plant (as *Anguloa sagittata*) to have come from Colombia via Mr Hay in 1928. It has remained in cultivation for over a century as it was used (under the name *Anguloa ruckeri* Lindl.) in breeding the first *Angulocaste* – *Angulocaste Bievreana* which flowered in 1901. The same plant was still being cultivated in the Jardin Luxembourg, Paris, in the year 2000 (Pierre Bertaux, *pers. comm.*).

Circa 1886: *Anguloa tognettiae* Oakeley was first illustrated in *Lindenia* in 1887 as *Anguloa uniflora* after it had flowered in the collection of the L'Horticulture Internationale in June 1886. This white *Anguloa* differs from the others in being unspotted, its long narrow tubular lip with no kink at the base, and its long squared off yellow lateral lobes. It seems unlikely that this was introduced in the original importations of Linden in 1841-43, given the date of flowering. The next description is by Tom and Marion Sheehan in *AOS Bull.* (1974) 43(9):816-817 with a beautifully clear painting by Marion Sheehan under the name of *Anguloa uniflora*. It was finally given separate species status in *All Japan Orchid Society Orchids* (10 Feb. 1999) 38:18-38 after finding it in cultivation with Snra Vilma Tognetti in Venezuela. It is also grown in Colombia. It would appear to be

reasonably common under the name of *Anguloa uniflora* or *Anguloa virginialis*.

Circa 1909: *Anguloa cliftonii* J. Farmer was described in *Gardeners' Chronicle* (29 January 1910) 47:77 after it gained a First Class Certificate at the Royal Horticultural Society on January 23rd 1910 for the firm of Charlesworth & Co. of Hayward's Heath, England. The painting of this type plant with its pale yellow flowers petals heavily marked with red reticulations, and its falcate apices to the sepals is in the one hundred year old collection of paintings of awarded orchids held by the Royal Horticultural Society. It has a distinctive lip, like a cup-shaped jug with a long spout on a narrow stalk-like base. Charlesworth's named it for a customer, J. Talbot Clifton of Lytham Hall, Lancashire, England although subsequent reports (*Orchid Review* 1912) say that it first flowered in his collection. The fact that it was flowering in January – instead of June when it would be expected to flower in England – suggests that it was a recent import. It only had one flower, which again suggests that it was not well established. It was later imported by Sanders & Co from St. Albans, England. Rolfe in 1917 says that it was known from the Antioquia region of Colombia and Schlechter (1916) writes that it first flowered in 1909 in the collection of Wilhelm Hennis (who was an orchid importer from Hildesheim, Hanover, Germany).

## Cultivation

I have all these anguloas in my collection, with all the recorded hybrids except *Anguloa x acostae*. Being in the U.K., I grow them in full sun (although perhaps I should have a little shade as they do in nature) with air cooling to keep the temperature below 27°C for most of the time in the summer day time and above 15°C night temperature in winter. They are primarily terrestrial and grow in leaf litter and other forest floor detritus. I have seen them growing well in ordinary dark loamy garden soil in Venezuela as pot plants. I grow them in a 50/50 mix of Perlite and chopped sphagnum moss, keeping them wet throughout the growing season and dry after the bulbs have formed completely. I restart watering when the buds and new growths appear after a few months rest.

They are spectacular plants for exhibition, with leaves that may be up to 1.2 metres long by 40 cm wide bearing up to 16 flowers per bulb – and occasionally two flowers per flower spike. Their fragrance is strongly medicinal – of eucalyptus oil making a greenhouse a heady place.

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## A Key to the *Anguloa* Species and their Natural Hybrids

- |                                                                           |                                              |
|---------------------------------------------------------------------------|----------------------------------------------|
| 1. Lip with narrow stalk attaching the base to the footplate              | 2                                            |
| 1. Lip directly hinged at base to footplate                               | 3                                            |
| 2. Lip ewer-shaped                                                        | <i>A. cliftonii</i>                          |
| 2. Lip boat-shaped                                                        | <i>A. x rolfei</i>                           |
| 3. Lip kinked at base                                                     | 4                                            |
| 3. Lip not kinked at base                                                 | 5                                            |
| 4. Flowers predominantly dark red internally                              | <i>A. brevilabris</i>                        |
| 4. Flowers predominantly white, with pink or brown suffusion or spots     | <i>A. virginialis</i>                        |
| 5. Lip tubiform                                                           | 6                                            |
| 5. Lip boat-shape                                                         | 7                                            |
| 6. Lip tubiform, edges overlap or nearly so in mid-line                   | 8                                            |
| 6. Lip tubiform but edges wide apart                                      | <i>A. x acostae</i>                          |
| 7. Lip tube straight                                                      | 9                                            |
| 7. Lip tube narrower (constricted) in mid-part                            | <i>A. uniflora</i>                           |
| 8. Lip tube wide, lateral lobes short, reflexed apically to form triangle | <i>A. eburnea</i>                            |
| 8. Lip tube narrow, long square lateral lobes                             | <i>A. tognettiae</i>                         |
| 9. Lip mid-lobe tridentate                                                | 10                                           |
| 9. Lip mid-lobe not tridentate                                            | <i>A. dubia</i>                              |
| 10. Lip yellow or white                                                   | 11                                           |
| 10. Lip red                                                               | 12                                           |
| 11. Lip predominantly white                                               | <i>A. clowesii</i>                           |
| 11. Lip yellow                                                            | <i>A. clowesii</i> var. <i>flava</i>         |
| 12. Flowers red internally                                                | 13                                           |
| 12. Flowers yellow spotted red internally                                 | <i>A. x ruckeri</i>                          |
| 13. Anther cap glabrous                                                   | <i>A. hohenlohii</i>                         |
| 13. Anther cap hairy                                                      | <i>A. hohenlohii</i> var. <i>macrogllosa</i> |



# Five Favourite Philippine Orchid Species

Text by Jim Cootes, photographs by David P. Banks

I have grown orchids from the Philippines for many years. One night when giving a talk at an orchid society meeting, one of the members asked me what were my favourite Philippine species? The following plants are the species that have become my favourites over many years of growing orchids – especially those of Philippine origins. Though to be honest, I am very fond of any species orchid, with a particularly soft spot for those orchids that occur in the Philippines.

*Euanthe sandariana* var. *albata* is without doubt, one of the most magnificent of all orchid species. The large, flat flowers are without equal and they compare favourably with any man-made hybrid. The albinistic variety of *Euanthe sandariana* is one of the most stunning of all flowers with its apple green and white blooms. The blooms are a little smaller in size than the normally coloured species but are still up to 6 cm in diameter.

H.G. Reichenbach first described this variety, in 1887, in *The Gardeners' Chronicle*. The specific name honours Frederick Sander, "The Orchid King", of St. Albans' in England. The generic name refers to the very showy flowers of this monotypic genus. (It was previously well known as *Vanda sandariana*.) The varietal



*Euanthe sandariana* var. *albata* (grower, Jim Cootes)

name refers to the albino form of the species.

*Euanthe sandariana* var. *albata* is a lowland species, requiring a minimum of at least 15°C in the winter in more temperate climates. *Euanthe sandariana* var.

*albata* always grew best for me in a pot (in Sydney, Australia). The pot was filled with large chunks of pine bark and the roots enjoyed wandering through this medium. In the Philippines it thrives, just in a basket.



*Vanda javierae* 'Superstar' AM/AOC-NSW 1999 (grower, David Banks)



*Amesiella monticola* was described, in 1998, by David Banks and myself, in *Orchids Australia*. The glorious white flowers are large compared to the size of the plant – which would certainly fall into the miniature class. The blooms are sweetly perfumed – particularly at night – and have a long spur. There can be up to 5 blooms on an inflorescence and an adult plant can produce several of these.

The generic name honours Professor Oakes Ames, who described many Philippine orchid species. The specific name refers to the mountain habitat of this wonderful, small-growing orchid.

*Amesiella monticola* comes from a sim-

ilar region as *Vanda javierae* and shares similar growing conditions, cool to intermediate. I have never seen *Amesiella monticola* growing in close proximity to water.

*Epigeneium treacherianum* is probably better known as either *Epigeneium lyonii* or even *Dendrobium lyonii*, which are both later synonyms. It was described by H.G. Reichenbach and Hooker filius in 1881 as *Dendrobium treacherianum* in *The Botanical Magazine*. Summerhayes, transferred the generic name to *Epigeneium* in 1957, in *The Kew Bulletin*. This species also occurs in Borneo.

The generic name refers to the position of the lateral sepals and petals on the col-

umn foot. The specific name honours Mr. W.H. Treacher, a Colonial Secretary of Labuan, a small island to the north-west of Borneo.

*Epigeneium treacherianum* is a species that comes from a region where the rain is evenly distributed throughout the year – a point to remember when watering. It lives at medium elevations and requires a minimum of about 12°C in the winter. I have observed this species growing in full sun in its natural habitat. I obtained plants of this species from a native collector in Mindoro, Philippines and tied them to a tree I have growing in my front garden. It took the plants a long time to re-establish themselves but they are now growing and I hope that in the future I can get them to flower.

*Vanda javierae* was first described, in 1984, by Danny Tiu but there was no Latin description. In 1990 Fessel and Lckel made a Latin description for this species in the German orchid magazine *Die Orchidee*. This magnificent species is endemic to a very small area in the mountains of central Luzon. The pure white flowers and the frilly anchor-shaped labelum are distinguishing features of this beautiful species.

The generic name comes from the 'Sanskrit' word for vanda-like orchids. This species was named after Mrs. Alicia Javier, an orchid nursery proprietor in Manila.

*Vanda javierae* is a very rare species in its natural habitat. It grows as an epiphyte, usually close to water, so this is a species that enjoys high humidity and constant air movement and will successfully grow without any winter warmth, provided that the plant is protected from the cold winter rains. I would not try to grow this species, and the following, in tropical lowland climates, as they are plants from elevations of over 1,200 metres. Species from the mountains are not accustomed to the high temperatures that occur at, or near, sea level.

*Cirrhopetalum makoyanum* is a real orchid gem and is a plant of the lowlands. The plant is a small grower and the inflorescence bears up to 15 blooms on an umbel. The arrangement of the flowers always reminds me of the spokes on a wheel. There are 2 growth habits that I have observed, in the Philippines, of this species. Plants from the island of Mindoro have a definite rhizome between the pseudobulbs whereas plants received from Quezon province have the pseudobulbs clustered together, the flowers, though, are the same.

The generic name refers to the bulbs and leaves and the specific name honours a Mr. Makoy. H.G. Reichenbach named this lovely orchid in 1879 in *The Gardeners' Chronicle*.

*Cirrhopetalum makoyanum* grows best



*Epigeneium treacherianum* (grower, Bruce Lonnon)



on a mount of tree fern or well-weathered wood where the plant can ramble about. It is best to place a little sphagnum moss besides the roots so the plant can establish itself quickly. Once the plant is settled down it will flower several times a year. In the Philippines I grow this species on coconut husk, which is readily available in the area where I live. Easy to grow and flower, (as long as the temperature does not fall below 12°C) making it a real plus in any species collection.

All the above plants benefit from regular applications of both organic and inorganic fertilisers. I find that it is best to apply the fertiliser at half of what the manufacturer recommends. There is an adage which is very appropriate to the fertilising of orchids "Little, often". Grow all the plants under a minimum of 50% shade-cloth, give high humidity and constant air movement and these species should grow and flower to perfection.

All these species are available intermittently from specialist orchid nurseries, often as seedlings, and are certainly worthwhile additions to any orchid collection. Thank you to David Banks for the use of his slides. (Jim Cootes is the author of the upcoming *Orchids of the Philippines*, to be published by Times Editions in February 2001.)

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*Amesiella monticola* (grower, Royale Orchids)



*Cirrhopetalum makoyanum* (grower, Jim Cootes)



# *Stanhopea maduroi* Dodson & Dressler

By Rudolf Jenny

## Synonym

*Stanhopea platyceras* forma *gunnii* Jenny, *Die Orchidee*, 48:4.1997

## History

This is one of the newest *Stanhopea* species published. It was described by Dodson and Dressler in 1998 in the journal *Orquideologia*, 21(1): 61-67. It was previously identified as *Stanhopea platyceras* forma *gunnii* Jenny.

Some years ago I received from Ron Parsons (of San Francisco) an unclear slide showing a pure yellow *Stanhopea* collected by the late Henry Butcher. It was collected somewhere in northern Colombia, very close to the border of Panama and named *Stanhopea platyceras alba*. I wasn't able to identify the species, so I attached the slide to Ron's letter and forgot it.

Years later, Ron Parsons again sent me some slides of a yellow, unspotted *Stanhopea* for determination, it seemed to be an entirely unspotted form of *Stanhopea platyceras*, again collected somewhere close to the border of Panama in northern Colombia. This plant was grown and flowered in the fine species collection of Howard Gunn in Sacramento, California USA. A colour photograph of this plant, taken by Howard, appears on page 49 in *The Astonishing Stanhopeas* by Barney Greer. Later on I also received pickled flowers and the comparison with blooms of *Stanhopea platyceras* showed that it could be an anthocyanin-free form of this species. At this point it was not clear whether the two plants are exceptions or part of an entire population, so the plant was described in 1997 as forma and not as a variety in *Die Orchidee*, named after Howard Gunn.

In 1998, a third plant was subsequently described as *Stanhopea maduroi* by Dodson and Dressler in *Orquideologia*. This plant was collected in 1985 by Andres Maduro, a Panamanian orchidist, in El Valle in Panama and described by the authors as a species in his honour. The comparison shows very clearly that *Stanhopea maduroi* is absolutely identical with the concept of *Stanhopea platyceras* f. *gunnii*. The flower is pure yellow, the form of the lip is very close to *Stanhopea*



*Stanhopea maduroi* (plant grown and photographed by David Banks)

*platyceras*, deeply saccate with broad horns. If you put a flower of *S. platyceras* in alcohol, it looks very much the same as *S. maduroi* but the hypochile is a bit shorter and broader. After careful comparison of the available material I think Dodson and Dressler are correct in treating this plant at specific level and not as an aberrant colour form of *Stanhopea platyceras*.

## Distribution

Panama and Colombia. This species has been collected once in Valle de Anton in Panama and twice in northern Colombia, close to the border of Panama. With only three clones known, it is arguably one of the rarest *Stanhopea* species.

## Cultivation

Howard Gunn grows this species in

his heated greenhouse, which does not drop below 16°C in winter, and tries to keep the plants below 32°C in summer. Howard gave David Banks a division of this plant in early 1998, and tells me that he grows it in sphagnum moss. From late autumn til spring, it is grown in his heated glasshouse (min 12°C) whilst it is transferred to the shadehouse (under 70% shade) for the warmer months. High temperatures do not seem to worry this species as long as there is high humidity and circulating fresh air. In Sydney, Australia, it flowers in December (early summer). Plant grown and photographed by David Banks. ■

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*Peristerchilus Olive Grace 'Daisy' HCC/QOS* (grown by Simpson Orchids, photo Gary Yong Gee)

# The Future of *Sarcochilus* Breeding

by Frank Simpson

When one considers that *Sarcanthinae* (the genus *Sarcochilus* and its relatives) breeding has not yet reached 40 years of age it is not surprising to hear comments like "Where has all the colour gone?" "Why aren't the flowers larger?" "Which hybrids do we buy to get those large deep coloured filled in blooms?"

The answer? Please be a little patient, as we are working in a largely unknown field. To be quite blunt – we have hardly

scratched the surface. At this time we are not going to get many large filled in deep rich colours. I feel those will come in future generations with a lot of thought, dedication and hard work and time!

However we do know that *Sarcochilus hartmannii* will produce larger filled in blooms but it has setbacks. For instance, progeny take longer to mature and the plants are much larger before flowering for the first time. Colour often disappears altogether or is watered down so as to become

at times quite unattractive. Some of the new line bred *S. hartmannii* will hopefully get away from this undesirable trait.

*Sarcochilus fitzgeraldii* certainly produces colour – sometimes too much. It may sound a strange thing to say particularly when the cry is for "more colour", but the fact of the matter is that many *S. fitzgeraldii* hybrids late in the season produce a fair amount of "loose" colour. This occurs mainly towards the tip of the inflorescence. Sometimes as much as three



quarters of the raceme is affected. The blooms begin to open with a few "normal" flowers – white with the characteristic red centre. Then "hey presto" the next flower is pink or combinations of red or pink blotches, which can continue right down till the last flower is open. This varies from sometimes even a part of one flower being pink on a raceme to solid red for some flowers on the same spike. There does not seem to be a pattern to this "loose colour" and it does not follow in successive flowerings. It does however seem to be mainly a late season trait. One theory is later blooming occurs in warmer weather and this apparently is the trigger to release this undesirable problem for showbench growers as it is frowned upon by judges because of inconsistency of colour.

*Sarcochilus falcatus* has become a very desirable parent, which strangely was largely ignored for many years following the popular *S. Melba* (x *Sarcochilus hartmannii*) in 1966. This species has a wonderful gene bank and colours like red, pink, purple, yellow and various mustards have occurred in the progeny. Some very beautiful colour combinations and in some instances perfume comes through and this is a bonus as most *Sarcochilus* hybrids lack fragrance.

*Sarcochilus weinthalii* has been a very successful parent and progeny from this little gem have often produced myriads of spotting in red, purple and browns. *S. Weinhart* (x *Sarcochilus hartmannii*) was made in 1970 and many have come along since, and I feel many more very colourful hybrids are still to come. There are many second-generation hybrids to flower in the next season or two and who knows what's in store?

*Sarcochilus spathulatus* (previously *Parasarcochilus spathulatus*) is a real surprise packet. It was used to make *Parachilus* (now often referred to as *Sarcochilus*) *Perky* (x *Sarcochilus hartmannii*), which was made 1972 and mostly was cream to pale green. A further 19 years elapsed before *Parachilus* (*Sarcochilus*) *Tigress* (x *Sarcochilus Fitzhart*) was registered and a steady trickle of hybrids since. The real success story was *Parachilus* (*Sarcochilus*) *Tigersun* (*Tigress* x *Fitzhart*). The progeny ranged in colour from ice green, watermelon pink, olive with maroon blotching, various shades of gold and well-marked Indian red. The first batch of seedlings achieved numerous awards, including both HCC (Highly Commended Certificate) and AD (Award of Distinction). Needless to say the current remake using the same parent plants is creating lots of interest as they approach flowering size.

*Sarcochilus hirticalcar* (previously *Parasarcochilus hirticalcar*) has certainly made its presence felt after a long delay



*Sarcochilus* Tigersun 'Brutus' HCC-AD/AOC-ANOS (grower and photo Simpson Orchids)

from 1976 when *Parachilus* (now *Sarcochilus*) *Riverdene* (x *Sarcochilus hartmannii*) came on the scene. Many very beautiful compact long flowering hybrids have been produced in recent years and once again the prediction is lots more to come in the future. There is a certain amount of confusion regarding the names with most calling these two species and their hybrids *Sarcochilus*, even though Royal Horticultural Society still insist that hybrid registrations be called

*Parachilus* (*Sarcochilus* x *Parasarcochilus*).

*Plectorrhiza tridentata* has been successfully bred with *Sarcochilus*, the first being *Plectochilus* Richard Jost (x *Sarcochilus hartmannii*) and *Plectochilus* Rumrill (x *Sarcochilus ceciliae*) in 1976. And, you guessed it, another long gap before more were made. These hybrids are increasing in popularity both because of then compact plant size with hosts of blooms and most have a glorious perfume.



*Sarcochilus* Velvet 'Yannie's Ruby' AD/OSCOV (grown by D. & L. Brown, photo C. Allen)



*Plectorrhiza brevilabris* so far only one hybrid registered. *Plectochilus* Brodie Vincent (x *Sarcochilus falcatus*), which is a very desirable bloom. To date *Plectorrhiza brevilabris* is an extremely difficult species to get to produce viable seed but more will arrive in the future.

*Peristeranthus hillii* has loads of potential and has been largely overlooked probably because of small bloom size. There is only one hybrid registered to date (in 1996) and this created a new genus *Peristerchilus*. *Peristerchilus* Olive Grace (x *Sarcochilus falcatus*) is the first of what I feel will be a very long line of descendants. It produces long pendulous racemes up to 300 mm carrying up to 30 blooms mostly in the pale mint green. Sometimes

a lilac mist overlay with purple stitching and – wait till you smell it!

*Rhinerrhiza divitiflora* is a large epiphytic species. Even though inflorescences can be up to 700 mm long the flowers are very short lived often lasting only a day or two. The first hybrid *Rhinochilus* Dorothy (x *Sarcochilus hartmannii*) was made back in 1965 and there was a long break before much was done with this unique species. The progeny often produce long spikes up to 700 mm with colourful spidery blooms. One very pleasing aspect is that flowers last up to 2 weeks although my thoughts are if the hot weather comes before they open there is the tendency to open sporadically along the raceme. Rich canary yellows with

orange marking are quite common colours along with cream some white and rarely pink occurs.

When reminiscing about *Sarcochilus* breeding one name stands out, Walter T. Upton. Wal started the ball rolling again in the 1980's after a lengthy time lapse from where the late Ira Butler left off. Wal really put *Sarcochilus* breeding back on the rails again and also wrote the popular *Sarcochilus Orchids of Australia*. I feel if it weren't for his efforts, there wouldn't be the interest in these wonderful plants that there is today.

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## Some Tips on Growing *Sarcochilus*

Text by Frances Wilde. Photos by Eric Wilde

My husband Eric and I live at a little village called Little River – on the Plains of Iramoo. It's about ten minutes on the west side of Werribee and just at the foot of the You Yangs National Park, Victoria. The weather patterns are quite hostile for orchid growing, going from minus 5°C to 40°C plus. Sometimes I think the wind starts and finishes here. On occasions it blows for days on end and when the weather bureau says, "gale force winds are expected", I know what they mean.

I would have preferred to have an area in which to grow my *Sarcochilus* that was covered in shadecloth on the sides, perhaps with a fibreglass roof for some protection, like we did in the suburbs, but we tried that when we first shifted down here, putting our plants in a shadehouse as a temporary measure. In those days we had mostly cymbidiums and Australian native dendrobiums and just a few *Sarcochilus*. We were both working at that time and each night when we came home there was a lot of repotting to do as the pots had all blown over during the day.

In the suburbs, the neighbours fence gives you some protection, and some of the trees may cause too much shade, but found when we came down here we had to learn all over again how to grow our orchids, as we were on ten acres of open land, no trees and only post and wire fences.

This led to Eric (the carpenter in the family) building a strong orchid house to Category two specifications, which was covered in fibreglass – both walls and roof,



*Sarcochilus* Judith 'Snowball' HCC/AOC

which we lined with shadecloth. Surprisingly enough, this shed soon became too small for our collection and a duplicate was made with a gap of similar size in-between the two. These sheds with windows and doors each end – North and South, housed all our cooler growing orchids, are kept open during the days for good ventilation and are able to be closed

up if necessary at night, with fans running continuously in this area.

Not too many years went by and the gap between the sheds was covered over and our cooler growing orchid collection expanded when I became really caught up in growing *Sarcochilus*. Today after many ongoing alterations to our cultivation, I feel we have conquered the weather and



are growing *Sarcophilus* with moderate success and have built up quite a large collection of these delightful little plants, which I purchase by flask, if I think the cross has potential.

Of course we don't know how they are going to flower – whether they will be show stoppers or just also-rans, as was the case when I purchased a dozen plants of a seedling *S. Judith* x *Fitzhart* (now registered as *S. Burgundy on Ice*) a few years ago from Down Under Native Orchids. Who in their wildest dreams would have seen the potential this cross was to have – personally I thought they would be good shaped, strong growing white “Sarc”.

These have been the ‘flavour of the month’ since this cross has started to flower, with just cause, as some of the colour that has come from this cross has been amazing. Out of the dozen I purchased, I have two that are mostly red, one with red blotches on white, and the rest are white with varying degrees of red in the centre, but I have found my white flowering *S. Burgundy on Ice* have longer spikes and more flowers per spike than the highly coloured ones. They are all extremely strong growing plants, and I wish I had purchased more (don't we all).

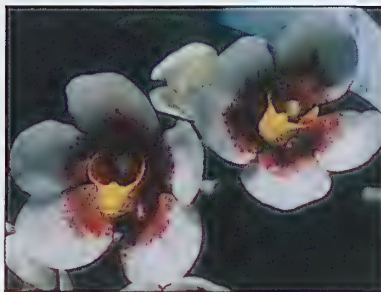
Some of my favourite “Sarc” are the ones with *S. hirticalcar* in the breeding, like *S. Riverdene*, *S. Flirt*, *S. Cherry Cheer*, they usually flower twice a year for me, so there is always something out in the orchid shed. I acquired *S. Riverdene* from Ken Russell of Dungog and it flowered in June 1995. That particular year the weather had been quite cold during the autumn when the spike had been developing on this plant and when the flower opened I was very surprised to find the colour was reversed to that of its normal flowering, which was cream with tan markings on each petal. On all flowerings since that time, this plants colour has varied with the weather. If the spike is developing in the warmer weather, the flower will be a creamy colour with tan stripes, and if developing during the colder weather the colour will be tan with very little cream, other than a fine line through each petal. This strain of *S. Riverdene* is quite different from the clones ‘Holly’ and ‘Dolly’, which flower creamy/green with varying amounts of red in the centre.

I also bought three seedlings of *S. Flirt* (*Riverdene* x *hartmannii*), only one of these has flowered so far, all three have struggled to grow, so say it is because they have *S. hartmannii* ‘Yellow Snow’ AD/ANOS as one parent. The one that has flowered has a very heavy substance to it, but as these plants are growing very poorly have just put all three into Sphagnum Moss to try to keep them growing. Isn't it always the way though, when you finally get something that is (in my opinion) outstanding, something always goes wrong.

The other little *S. (Frances* x *Riverdene)*



*Sarcophilus Riverdene*



*Sarcophilus Burgundy on Ice*



*Sarcophilus Flirt*



*Sarcophilus (Frances* x *Riverdene)* x *hartmannii*



*Sarcophilus ceciliae*

x *hartmannii* flowered for the first time last year. It stayed out for weeks and if it keeps growing, as it has to date, will develop into a very nice plant – perhaps the extra dose of *S. hartmannii* has given it strength.

Not all my “Sarc” have colour, I have quite a big collection of whites, one of which is *S. Judith* ‘Snowball’ HCC/AOC-VOC, this has grown into a very big plant and I am still trying to come to terms with dividing it. I have it in a 15” squat pot and it is getting too heavy for me to handle, but when autumn comes I think it might get the chop.

Another big plant is a *S. Melba*, which was one of the first *Sarcophilus* I purchased. It was after I saw this *Melba* flower for the first time I became hooked on a ‘path of no return’ and have been poor ever since. Although by today's standards the shape of this *Melba* is very open, it makes up for it in the number of spikes and flowers it has. I potted it into a big treefern pot about 10 or more years ago and every year at repotting time it is turned over on the side and some of the old bark removed and replaced with new, it is then given a drench with lime water. It is growing very well, although I have heard the tree fern may have adverse effects on it, to date I have not had a problem. Another that I have in a tree fern pot is *Sarcophilus aequalis*, previously well known as the “southern form” of *S. hartmannii*. This is a big plant that has had many growths removed over the past decade or so and has just recently received a cultural certificate. It gets the same treatment with regards to renewing the bark and lime water drenching each year.

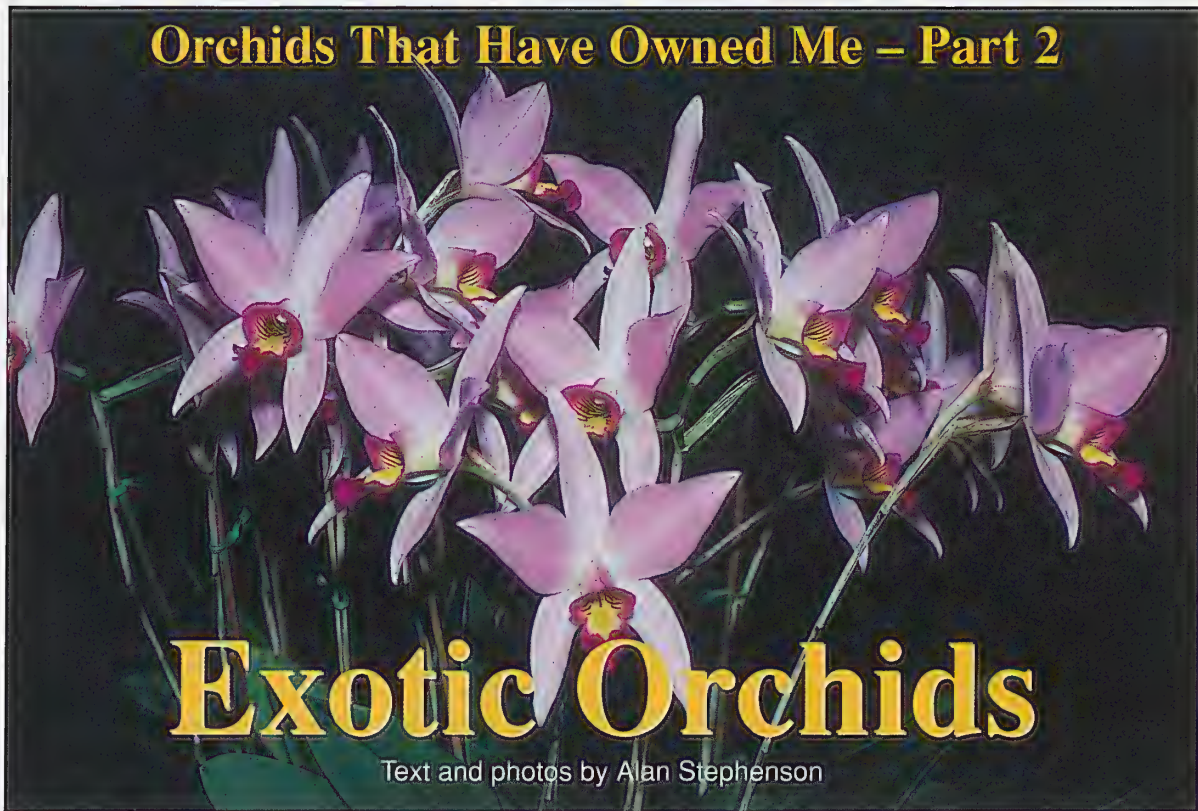
Another of my favourites is my collection of *Sarcophilus ceciliae*. These grow in pots on a shelf on the northern end of the shed, right under an open window, where they get more heat through the walls of the shed which they seem to appreciate and being under the window get quite a good air flow over them.

It is no good me telling you how you should grow your *Sarcophilus*. Our conditions are very different from the grower who has a small back yard with neighbours fences and trees to help shelter your plants. But two things we have done to help overcome the heat and dryness down here is firstly purchased two second-hand water-filled air coolers and installed them in each end of the shed, and secondly installed a Moss misting system on the northern end to catch the hot northerlies as they come through the shed. Both have been invaluable to our growing conditions, the temperature has dropped considerably, and the humidity has been raised, so try it if you think your conditions are similar to that of ours.

Frances Wilde  
P.O. Little River, Victoria 3211



## Orchids That Have Owned Me – Part 2



*Laelia anceps*

Just when one may have thought it was only natives, I will now list the exotic species that have captured my interest. At this point I will confess, all of the following rate high on the “easy to grow, hard to kill index”.

From southern Brazil *Bifrenaria harrisoniae* is a firm favourite of mine. It is

said of this species, when the leaves begin to look a little tatty then the plant will flower well. Perhaps it is only in my orchid house where it thrives on conditioned neglect. Each inflorescence supports one or two 60mm flowers of cream to white. The labellum is red/purple with darker veining and is covered with fine

silver/white hairs. Plants prefer to be snug in the pot.

*Dendrobium jenkinsii* is one of several species I purchased from Roy Gifford of Ettalong on the Central Coast of NSW in 1986, less than one year after I first contracted the terminal disease Orchidophillia extravagans. In *An Introduction to The Orchids of Asia* by Mark L. Isaac-Williams it is listed as *Dendrobium aggregatum* var *jenkinsii*. However, I have retained the plant name as purchased, as the morphology and flowering habit of the plants are quite different. *D. aggregatum* (now correctly *D. lindleyi*) has a pendulous inflorescence with numerous flowers but *D. jenkinsii* has a rachis which produces either one flower or develops two peduncles with a flower at each tip. The plant flowers well in late October each year and the bright yellow flowers make an eye-catching exhibit. As this plant is from the lower Himalayas, it hangs above my native dendrobiums all year.

*Dendrobium nobile* must be a favourite of all aficionados of softcane dendrobiums as it is somewhere in the breeding line of a large number of hybrids. A good variety of colour is ensured, as it is variable from white to shades of mauve and purple with a darker blotch on the labellum.

Another species I acquired from Roy Gifford is *Encyclia polybulbon*, also known as *Epidendrum polybulbon* and



*Bifrenaria harrisoniae*





*Dendrobium jenkinsii*

*Dinema polybulbon*. Small dense growth habit and light tan to mustard flowers of 25 mm. The sepals have darker suffusions at the base but on the petals these are more defined. The white labellum is contrasted by a mustard stripe tapering towards the tip. Growing on a slab it hangs next to *D. jenkinsii*. From an altitude of 1200 meters in Central America, this July flowering species rates near the top of my "hard to kill index".

Anceps beautiful ancepts. As I expose my preferences and prejudices, I have just finished re-reading an excellent article in the June/July 1999 issue of the *Australian Orchid Review* by Gary Yong Gee regarding *Laelia anceps* and all its variances. I have just two varieties and both are easy to grow. *Laelia anceps* ssp. *anceps* is one of the joys of orchid culture. It displays no bad habits as it exhibits a flower, which needs no coaxing to sit in the correct position. Back-cutting to induce extra growth is recommended to build a specimen plant.

Reported to be near extinction in the wild after only being described in 1960, *Laelia milleri* is a favourite for two reasons, colour and the habit of having flowers which are classic in shape and ideally exhibited. Not to mention the December flowering time. It is a Brazilian species and has suffered due to its habitat being rich in iron ore. Plants have a compact growth habit and brilliant orange/red 50



*Laelia milleri*





*Dendrobium nobile*



*Encyclia polybulbon*

mm flowers with a yellow upper section on the frilly mid-lobe.

A delicate soft white upside-down flower with a yellow tip to the labellum on a slender stem, is *Osmoglossum pulchellum* – previously known as *Odontoglossum pulchellum*? Originally purchased from the defunct Orchids International, it has proved to be a stop-start plant to flower but at least it is grow-

ing well. The flowers when photographed show a silver/clear edging on the petals and sepals. This effect is similar to the crystalline texture on some *Sarcochilus* species, as it is not always as evident to the naked eye. Found from Mexico to Costa Rica it has the largest flowers in the genus.

Locally I am known as more of a native grower than a grower of exotics but after counting, I have listed more exotics for

this article than my previous one on natives. The bias is less obvious than even I had thought. Actually, I have more hybrids than species in my orchid house, but remember without the species, we certainly wouldn't have the hybrids! ■

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*Osmoglossum pulchellum*



# The Occurrence of the South African Orchid *Disa bracteata* Sw in Victoria

By Gary Backhouse

**D***isa bracteata* was formerly well known as *Monadenia bracteata*, but *Monadenia* is now considered a subgenus of *Disa*. The species is native to southern Africa. Commonly known in Australia as the South African Orchid, it was accidentally introduced to Western Australia in the 1940s, spread to South Australia in the 1980s and has since been found in Victoria. *Disa bracteata* is a very distinctive species unlikely to be confused with any other native terrestrial orchid. It is a stout, fleshy orchid growing to 35 cm tall, with up to 60 crowded, tiny brownish and green flowers with a prominent, narrow bright yellow labellum, while the dorsal sepal has a distinctive basal spur. The lanceolate leaves are green above and purple below and arranged in a rosette extending up the flower stem. It flowers from October to December.



*Disa bracteata* from Rowsley, Victoria (photo, Gary Backhouse)

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The presence of *D. bracteata* in Victoria was first confirmed in 1995, although it seems plants have been present since at least 1992, but were not identified at that time. It is now known from at least five locations in Victoria from Melbourne to the South Australian border, growing in grassland and heathy woodland, usually on disturbed sites. Populations near the South Australian border were almost certainly spread by vehicles or machinery spreading seed from South Australia. The source of populations occurring near Melbourne is more of a mystery. *Disa*

*bracteata* is grown in cultivation and, being self-pollinating and capable of producing vast numbers of seeds, it is conceivable that seed from cultivated plants may have been the source of some populations. Unfortunately the species is likely to become more widespread, as current control methods to eradicate populations and prevent its spread are proving ineffective.

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# The Jewel Orchid – *Ludisia*

Text and photographs by Ian Walters

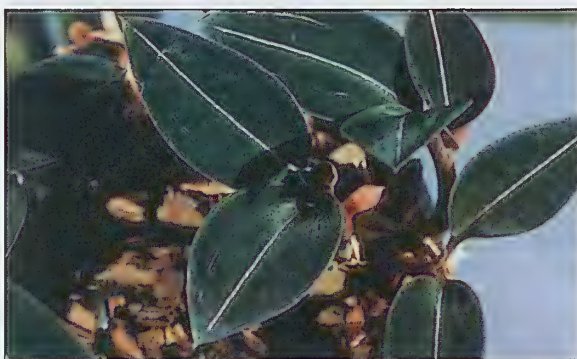
A most commonly grown jewel orchid is the monotypic *Ludisia discolor* (previously known as *Haemaria discolor*), with two forms well established in cultivation. The 'type form' has a dark green black leaf, red underneath, with a centre silver stripe. Whilst the so-called 'variety dawsoniana' has a reddish leaf prominently veined with a copper colour. This species is found throughout Southeast Asia, where it displays quite a variation in leaf markings. The named 'varieties' however, have no taxonomic standing.

Several years ago, we self-pollinated a plant that itself had arisen as a seedling in the bushhouse, most likely being seed from a natural selfing of 'var. dawsoniana'. This seedling seemed to match Schlechter's 'var. odina', with silver veins instead of the copper veins of 'var. dawsoniana'.

Seedlings raised from this clone in flask were predominantly 'var. odina', with some reverting to the type form with the single silver midrib vein. The leaf is a dark green, flushed, especially underneath with dark red. Most of the veining is silver, with the outer vein or two slightly coloured pink red.

At about the same time, we acquired a small plant of an 'alba form' of *Ludisia discolor*. 'Alba' in that the leaf was green with silver veining, with only a faint shadow of the normal red colouring under the leaf. Obviously it is not a true albino. This plant eventually flowered and was selfed. The seed was sown, but nothing germinated.

However, shortly after, a swarm of seedlings appeared in pots near to where the 'alba form' was growing. The seed was from an uncollected seedpod on the 'alba form' plant. Most of this swarm of seedlings developed into 'alba form' plants, with about half of them showing a true alba condition, with leaves of clear



*Ludisia discolor* 'Type Form'

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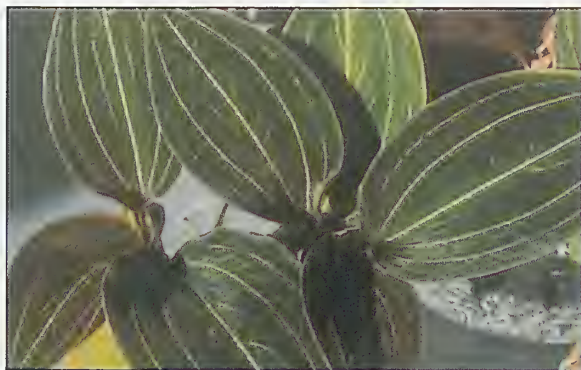
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*Ludisia discolor* 'Green Gold'



*Ludisia discolor* 'var. odina' (left) and 'var. alba'

green, veined silver, and no red colouring at all under the leaf.

The third form is also a plant that arose in an orchid collection from the natural dispersal of seed of 'var. dawsoniana'. This form is a sturdier plant, with yellowish green leaves that have copper coloured veins in the new leaf, and lightly flushed red underneath. When the leaves mature, the veining goes to a gold colour, on a background of yellowish green. 'Green Gold' would aptly describe this form. The flowers on all these forms were obviously the same, white with a yellow spot in the centre of the flower.

We grow our plants of *Ludisia* under 85 to 90% shade, in small pots in a mixture of fine bark, shredded isolite and coconut peat, well crocked. They rest in winter and need less water at that time. When active growth begins, they like lots of water and fertiliser. The plants like warm, humid conditions and should not be allowed to drop below 10°C in winter. They seem to enjoy hanging over the side of their pot, and will develop into large clumps if allowed. There is nothing unusual in this natural variation, as it is the trademark of most orchid species.

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*Ludisia discolor* 'var. dawsoniana'

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# Gatton Park

By Robert Friend

**E**xotic orchids came to Gatton Park at Reigate, Surrey in England late in its history. Gatton Park was the home of Sir Jeremiah Colman, the Mustard King – philanthropist, orchid lover and hybridist extraordinaire. Now it is home for the Royal Alexandra and Albert School and the Gatton Park Heritage Trust who are preserving its historic landscape and heritage.

The history of Gatton goes back to pre-Roman times. The oldest road in southern England ran through Gatton Park. This was the route by which the Cornish tin miners carried their tin to the Phoenician traders with bases on the coast of Kent. Armies of Britons used it when battling successive invaders – Romans, Saxons, Vikings and Normans. Gatton is described in the Domesday Book and details of its owners exist from the time of Alfred the Great. But let's turn to more modern times.

Sir Jeremiah was already involved in the orchid world when he purchased Gatton Park in 1888. In 1890 the famous English firm Sander & Co. registered *Paphiopedilum* (then called *Cypripedium*) *Colmanii* from their cross of *P. Harrisianum* and *P. javanicum*. Frederick Sander had a history of naming orchids in tribute to important people, including his best customers. In 1900 Sander registered *Laeliocattleya* *Colmaniana* (*Lc. Callistoglossa* x *C. dowiana*), which proved an excellent stud plant. Sir Jeremiah must have commenced hybridising in the late 1890's. His first registered hybrid, *Dendrobium* *Neptune* (*Ainsworthii* x *Curtisii*) appeared in the list in 1902. There followed a veritable torrent of hybrids totaling 319 registrations in 32 genera including 18 intergeneric hybrids.

Many orchid growers have heard of the famous 'Gatton Park' softcane *Dendrobium* hybrids made by Sir Jeremiah. Gardeners loved them for their free flowering habits and easy, vigorous growth in garden landscapes. Perhaps the best known were *D. Gatton Monarch* (Lady Colman x *D. nobile* 'Harefield Hall'), still to be found in older collections, and *D. Gatton Sunray* (*Illustre* x *pulchellum*) which is still popular and winning prizes when grown to specimen size.

Several of Sir Jeremiah's orchid creations remain popular in present-day collections. These include *Aeridovanda* *Mundyi* (*Aerides vandarum* x *Vanda teres*) but both parents are now classified as *Papilionanthe*, *Dendrobium* *Gatton Sunray*, *Diacattleya* *Colmaniae* (*Cattleya intermedia* x *Diacrium* {now

*Caularthron*) *bicornutum*) and *Epidendrum* *Lilac Queen* (*Boundii* x *stamfordianum*).

The famous Hawaiian hybridists W.W.Goodale Moir and May Moir registered the tri-generic combination *Colmanara* (*Miltonia* x *Odontoglossum* x *Oncidium*) in 1963 with their hybrid *Colmanara* *Sir Jeremiah* (*Odm. bicorniense* x *Mtdm. Lee Hirsch*). In honouring Sir Jeremiah, Moir said "Sir Jeremiah Colman was one of the early hybridisers in England and made some unusual crosses." Some of these unusual crosses were *Brassocattleya* *Mary* (*B. nodosa* x *C. lawrenciana*) one of the first hybrids involving that *Brassavola* species, *Coelogyne* *Colmanii* (*cristata* x *speciosa*), *Coelogyne* *Gattonense* (*sanderi* x *speciosa*), two diacattleyas, two dialaeliocattleyas, three epidiacriums and *Epilaelia* *Longio-ciliare* (*E. ciliare* x *L. longipes*). Is this hybrid still in cultivation?

Sir Jeremiah registered four *Lycaste* hybrids between 1936 and 1938. In three he used a fine form of the beautiful green Peruvian species *Lycaste locusta* with respectively *L. Imschootiana* (= Lady Colman), *L. xytriphora* (= Olivia) and *L. skinneri* var. *alba* (= Queen Elizabeth). The fourth he named *Lycaste* *Sir Jeremiah* Colman using *L. lanipes* (now *L. fimbriata*), another green species crossed with *L. skinneri* var. *alba*. The green-flowered species from the *Lycaste* section *Fimbriatae* are notoriously difficult to hybridise with lycastes from other sections, so these hybrids represent one of Sir Jeremiah's significant achievements.

As already stated, Sir Jeremiah registered his first hybrid *Dendrobium* in 1902. In 1933 he registered his fifty-first and last *Dendrobium* hybrid, *D. Jungfrau* using his own line of breeding – (Gatton Belle x Gatton Jewel). *D. Gatton Monarch* crossed with Sir Jeremiah's early hybrid *D. Lady Colman* (*findlayanum* x The Gem) produced *D. Winifred Fortescue*, which led to *D. Anne Marie*. Modern Japanese hybridists have used these and other Gatton Park bloodlines extensively to give us the wonderful "Yamamoto" softcane *Dendrobium* hybrids so popular today.

Apart from hybridising dendrobiums Sir Jeremiah favoured laeliocattleyas, registering fifty-seven hybrids in that genus, odontoglossums with forty-seven hybrids and odontiodas forty-two. He was active in the field of *Cymbidium* hybridising, demonstrating his sense of humour in registering *Cymbidium* *A.A.* (Fanny x *lowianum* var. *concolor*) in 1931. Thereby

Sir Jeremiah secured for all time the first place in the alphabetical listing of *Cymbidium* hybrids.

Several of his cymbidiums were popular with Australian growers in the late 1940's and early 1950's. Three which older growers remember are *C. Erin*, a decorative green, *C. Lady Colman* in yellow tones registered in 1908 and her offspring *C. Queen* of Gatton that had the wonderful *C. insignis* added. The *C. Lady Colman* line led through *C. Lysander* to the well-coloured *C. Ethel Ward*, *C. Edzell*, *C. Doris Aurea* and *C. Mildred Hunter* – themselves progenitors of high-colour cymbidiums. Sir Jeremiah's last registered hybrid was *C. Oliver Colman* in 1941, named for one of his sons. Sir Jeremiah was then 81 years old. This brought to a close a hybridising career spanning such diverse genera as *Calanthe*, *Coelogyne*, *Promenaea*, *Sobralia*, *Spathoglottis* and *Thunia* in addition to twenty-six other genera.

In common with all the great amateur orchid lovers of his day, Sir Jeremiah employed a head orchid grower and other staff to tend to the day-to-day chores of managing a large collection. The bright orange *Epidendrum* *Boundii* (*Burtonii* x *radicans*), grown in thousands of suburban gardens in Australia and elsewhere as a garden plant, commemorates Sir Jeremiah's grower Mr. Bound. By 1907, Mr. Bertram Perfect replaced Mr. Bound as the orchid grower at Gatton Park. Sir Jeremiah commemorated him with *Laeliocattleya* *B. Perfect* (*Cattleya guttata* {*leopoldii*} x *Laelia* *Cinnabrosa*), registered in that year. Was this a wish, a command or an early illustration of his quirky humour?

In 1932 he honoured his grower with *Brassolaeliocattleya* *Bertram Perfect*. Its parents were both Sir Jeremiah's breeding, *Lc. Lady Colman* x *Blc. Antoinette*. The latter must have been a very good orchid. Sir Jeremiah registered it in 1917 and the Royal Horticultural Society awarded it a First Class Certificate. It was still in use in the 1970's. Sir Jeremiah had a penchant for breeding "blue" cattleyas, including the lovely *C. Portia* 'Coerulea' which he registered in 1907 from *C. bowringiana* 'Violacea' x *C. labiata* 'Coerulea' and which remains popular a century later.

Sir Jeremiah played an active public role in the orchid world. He was awarded the coveted Victorian Medal of Honour in Horticulture – surely the high point of any English orchid grower's career. He was a member of the Orchid Committee of the



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Royal Horticultural Society from as early as 1902. He became the Committee's Chairman in 1917 and in that capacity wrote the Foreword in 1931 to the then current Volume of Sanders' Complete List of Orchid Hybrids.

Sir Jeremiah was created first Baronet of Gatton in 1907. In keeping with his public spirit he was keen on promoting orchid culture. In 1935 he sent a collection of flowering orchids from Gatton Park to the Greater St. Louis Flower and Garden Show at the renowned Missouri Botanical Garden. The American public appreciated the orchids so well that the Trustees of the Garden awarded Sir Jeremiah the Henry Shaw Gold Medal. (Henry Shaw was the founder of the Missouri Botanical Garden.)

The early volumes of *The Orchid Review* show that Sir Jeremiah was a keen exhibitor at monthly meetings of the Royal Horticultural Society's Orchid Committee and at exhibitions. At the meeting on 15th December, 1903 the Committee awarded him a Silver Gilt Flora Medal for a "brilliant series of deciduous calanthes" and other plants. On 26th January, 1904 the Committee awarded Jeremiah Colman (grower then Mr. Bound) a Gold Medal for "a magnificent group of dendrobiums, extending the whole length of the central staging of the Drill Hall". *The Orchid Review* contains numerous similar mentions of wonderful plants and groups emanating from the glasshouses of Gatton Park over the next three decades.

Hermon Slade, one of the founders of the Orchid Society of New South Wales and the first editor of the *Australian Orchid Review*, visited Sir Jeremiah to ask him to write an article for the magazine and stayed as his guest. At Hermon's request, Sir Jeremiah wrote the letter of encouragement reproduced in the first issue of the magazine in January 1936.

Hermon Slade described the Gatton Park orchid collection in the 1930's as being housed in at least ten large glasshouses. One contained hundreds of

flowering plants of *Lycaste skinneri* of which, Hermon said, no two clones were the same. Hermon said the collection contained many excellent stud plants and hundreds of species which were rare then and remain rare today, including many "blue" forms of cattleyas and laelias – both species and hybrids. Sadly, Sir Jeremiah is said to have required his trustees to destroy all the orchids on his death. Sir Jeremiah died in 1942. The Colman family decided to sell Gatton Park, which, like so many large estates, had declined from its former glory due to the passing of time, the expense of maintenance and the constraints of the Second World War.

The Gatton Park Heritage Trust is dedicated to conserving and restoring Gatton's historic landscape originally laid out in the 1760's by "Capability" Brown and the gardens added by Sir Jeremiah. Already one of Sir Jeremiah's glasshouses is restored. Orchids have reconnected with Gatton as the Orchid Society of Great Britain held its Spring Shows in Gatton Hall in 1999 and 2000.

Gatton Park is open to the public from February to October on the first Sunday of each month and the Trust hopes to increase public access. Visitors can take guided walks through the Old World Garden, the Pleasure Gardens, the Japanese Garden and the Walled Gardens to name just a few of the features. If you are in England take the chance to visit Gatton Park. You will admire its grand scale landscape and absorb its historic atmosphere. As an orchid lover you may connect with Gatton's place in the world of orchids. You will also see its evolution as a unique and fascinating educational institution. Visit its website at [www.gatton-park.org.uk](http://www.gatton-park.org.uk)

(Robert Friend is the author of *Orchids in Your Garden*, just released by Halstead Press.)

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There has been a range of new titles released over the past twelve months. A number of these have been outstanding contributions to orchid literature, whilst others have been a touch disappointing. Where possible, it is always good to flick through the pages of a book before you buy it – unless you know you've just got to have it!

In Australia, the best sources for these works are The Australian Orchid Foundation (03) 9379 3570 and Orchidaceous Books (07) 4122 1251 or email: gmuller@mary.big.net.au. Some of the harder to obtain titles can often be obtained via the Internet through the bookshop of the American Orchid Society ([www.orchidweb.org](http://www.orchidweb.org)) or the extensive Amazon.com ([www.amazon.com](http://www.amazon.com)).

### *The Orchids of Madagascar*

by David Du Puy, Phillip Cribb, Jean Bosser, Johan & Clare Hermans  
376 pp. 305mm x 214mm Hardcover.  
Published by Royal Botanic Gardens,  
Kew, U.K.  
ISBN 1 900347 70 9, USD \$105.00

This is the first modern checklist to the orchids of Madagascar. It is not a cultural book or identification guide, but an essential reference point for students studying the orchids of this unique island. The highlight of this work are the superb colour photographs (136 in all), taken by Johan Hermans, of 112 different taxa and many of these were taken in situ. These photographs alone justify the purchase price. There are also habitat photographs plus a couple of useful maps.

Obviously the *Angraecoid* genera (including *Aerangis*, *Aeranthus*, *Angraecum*, *Sobennikoffia*) dominate this work but there are also numerous examples of *Bulbophyllum*, *Cymbidiella*, *Cynorkis*, *Gastrophys* (previously included within *Phaius*) and *Vanilla* included in this tome. I was particularly taken by the photographs of the spectacular *Aeranthus schlechteri*, *Angraecum sororium* growing and blooming on a rock with an *Aloe* species, all of the *Gastrophys* and the bright yellow *Vanilla perrieri*.

This up-to-date checklist includes 114 new taxa and 62 new combinations. The checklist documents each species, type collection and description details, synonyms, distribution, habitat, altitude, flowering time, plus other information including a full list of references, which are detailed elsewhere in this book. The habitat and altitude information give many clues, which may be translated to provide the optimum conditions for the successful cultivation of these plants. An 'Annotated Bibliography of The Orchids of Madagascar and Neighbouring Islands' (up to 1998) is pre-

sented by the respected husband and wife team of Johan and Clare Hermans. This thorough work absorbs 142 pages of this opus.

I thoroughly recommend this work to taxonomists and those with an interest in the flora of Madagascar and surrounding islands. Over the past decade, we have seen a number of these species enter cultivation in Australia, either as imported plants or seed raised examples in flasks. Perhaps this book should have been released in softcover, as this would have reduced the price somewhat and made it more readily available to most orchid enthusiasts.

### *The Genus Paphiopedilum*

– *Natural History and Cultivation.*  
Volume 2.

by Guido Braem, Charles Baker & Margaret Baker  
178 pp. 276mm x 226mm Softcover.  
Published by Botanical Publishers Inc.,  
Florida, USA  
ISBN 0 9665337 1 2 AUD \$88.50

This is the second instalment of this proposed three-volume set, which is an alternative to the recent revised work by Phillip Cribb. Specific cultivation notes and suggested requirements for each species are more extensive in this work than the one by Cribb. There are eleven new taxonomic changes proposed in this volume, many to do with albinistic forms of *Paphiopedilum* species.

This volume contains 35 species from the subgenera *Paphiopedilum* (including species such as *P. insigne*, *P. charlesworthii*, *P. henryanum* and *P. fairrieanum*) and *Sigmatopetalum* (including *P. appletonianum*, *P. venustum*, *P. suhakulii* and *P. tonsum*). The subgenera are further split into sections, then the individual taxa discussed. I like the way that closely related species are firstly discussed as a 'complex'. Complexes discussed in this volume involve the following species: *P. henryanum*, *P. insigne*, *P. villosum*, *P. hirsutissimum*, *P. hookerae*, *P. violascens* and *P. tonsum*. Personally, I would have included the rare *P. papuanum* within the *P. violascens* complex.

For each species we again have details of the original description, synonyms, discussion, etymology, full description, distribution and habitat, climate, variations, chromosome counts and flowering season. The Baker's influence is seen with their now trademark cultural recommendations, which include light, temperature, water, fertiliser, rest period, culture media, advice on repotting plus of course the climatic data for stations within or near the species range.

Regarding the infamous *P. tigrinum* vs.

*P. markianum* debate, for which there was a race for 'who can describe this first'. This work favours *P. markianum*. Personally, I don't think it is a good precedent for a fax to be allowed for a 'valid description'. A fax is not readily available to the wider scientific community, unlike a publication in a journal with an established circulation and wide accessibility. At the time the 'rules' were written, we didn't have faxes and emails. If the *P. markianum* example was upheld, I fear we would have descriptions by email! In any case, I prefer the name *P. tigrinum* anyway, (even though that's irrelevant).

The full colour photographs are excellent, with many shown full page. Where appropriate, albino forms and other variations are shown. A number of newly described species are included, such as *P. herrmannii*, *P. helenae* and *P. tranlieni-anum*.

I do have a question mark over a few of the photos. On page 227, the inset photo is of *P. insigne* forma *sanderiae*, not an albino *P. exul*. Page 231, under *P. insigne*, the larger photo is *P. exul*. Perhaps these above examples should have been switched. The *P. gratixianum* on page 235 has very wide petals, suggesting this could this be a natural hybrid with the related *P. villosum*. I cannot accept the plate on page 239 as *P. boxallii*. This looks just like a hybrid between *P. villosum* and *P. insigne* I have in my collection. I really don't know enough about *P. mohrianum*, but it could be a natural hybrid between *P. mastersianum* and *P. bullenianum*. That's what it looks like to me anyway! This is only known from a single collection, which adds weight to the natural hybrid theory.

Of particular interest to me (and I am sure I speak for all slipper orchid enthusiasts) is the paper (pp. 347-353) by Dr. Braem 'On the Infrageneric Taxonomy of the Genus *Paphiopedilum*'. The index is cumulative and includes taxa treated in Volume 1. This is required reading which I

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recommend for slipper orchid enthusiasts as it will become a valuable addition to our knowledge of the genus *Paphiopedilum*. ■

### *The World of Catasetums*

by Arthur W. Holst

306 pp. 238mm x 162mm Hardcover.  
Published by Timber Press, Portland,  
Oregon, USA. [www.timberpress.com](http://www.timberpress.com)  
ISBN 0 88192 430 X USD \$35.00

This is the first major monograph on this unique tropical American genus. It is a superb book, covering all aspects of *Catasetum* – including history, reproductive biology, taxonomy, distribution and cultivation. Other topics are covered such as fragrance, hybrids (including intergenerics) and breeding trends.

The cultivation notes are extensive, with over forty pages devoted to this practical topic. The principles applied here would also be pertinent to related genera such as *Clowesia*, *Cynoches*, *Mormodes* and perhaps even *Galeandra*. Everything is covered from potting, mounting, dividing, watering, fertilising, temperature, light, humidity, pests and diseases right down to labelling and exhibiting *Catasetum*. A generous glossary and selected bibliography are also included.

There are 90 top class full colour photographs, depicting most of the 68 described species which the author has intimate knowledge of, having grown most of these. There are also 45 black and white photographs and 25 line illustrations. The species descriptions are thorough and include natural distribution, habitat, synonyms, varieties, identification tips, flowering time, culture and interesting comments.

Everything you need to know about catasetums is in this book, which is a must for species orchid enthusiasts and growers of unusual plants. If you don't currently grow this genus, I'm sure this book will convert you! ■

### *Orchids of the Anglesea District, A Field Guide*

by Everett Foster & Margaret MacDonald

112 pp. 210mm x 110mm Softcover.  
Published by Inverted Logic, 126  
Brunswick Rd., Brunswick, Vict. 3056  
ISBN 0 9577216 0 9, AUD \$25.00

This is a neat pictorial field guide to the orchids of the Anglesea district, on the south coast of Victoria. It is spiral bound and compact enough to include in your backpack. There are 100 indigenous terrestrial species orchids depicted, with three natural hybrids included from the genus *Caladenia*. Each species has a colour photo-

graph (72mm x 54mm) taken in the wild from this botanically rich district.

The text is arranged alphabetically and common names are included for each species. There are also a couple of undescribed taxa included. The plant shown on page 15 as *Caladenia* sp. aff. *catenata*, has since been described as *Caladenia maritima* (by David L. Jones in *The Orchadian*), after the manuscript went to press. Flower size is noted for each species, as well as the meanings of the Latin names, descriptions, flowering times, habitat and local conservation status.

I have been to Anglesea a couple of times and was most impressed with the variety and beauty of its orchid flora. This is a very nice book, which would be most useful to naturalists and orchid enthusiasts, who may be planning a visit to this picturesque area. ■

### *Genera Orchidacearum. Volume 1.*

*General Introduction, Apostasioideae, Cypripedioideae.*

Edited by Alec Pridgeon, Phillip Cribb, Mark Chase & Finn Rasmussen

198 pp. 286mm x 224mm Hardcover.

Published by Oxford University Press

ISBN 0 19 850513 2 USD \$75.00

This impressive first instalment of a proposed five-volume set is aimed towards the more advanced student of orchids as it is predominantly of a scientific nature. It provides a comprehensive classification of the orchid family, compiled and contributed by a number of the world's leading orchid experts. The first half of this book covers the history, elements, and science of orchid classification. Topics discussed in detail include the development of orchid classification, morphology, anatomy, palynology, embryology (written by Australia's Mark Clements), seed morphology, cytogenetics and molecular systematics, parsimony and orchid classification.

The *Apostasioideae* (*Newwiedia* and *Apostasia*) and *Cypripedioideae* (*Cypripedium*, *Selenipedium*, *Paphiopedilum*, *Phragmipedium* and *Mexipedium*) are the first two sub-families from the Orchidaceae discussed in this first volume. There is a section of 16 colour plates, as well as a number of line illustrations and black and white photos which give an introduction to the topics and species covered.

The various species and their relationships to sister taxa are discussed under the genus headings. The use of DNA evidence and the results from cladistic analysis are presented to support the determinations made. There are also notes on cultivation, which add to the horticultural appeal of this book. Orchid scientists and keen students

interested in the classification of the orchid family will welcome this book. ■

### *Field Guide to the Orchids of New South Wales and Victoria (2nd Edition)*

by Tony Bishop

256 pp. 136mm x 208mm Softcover.

Published by University of New South  
Wales Press, [www.unswpress.com.au](http://www.unswpress.com.au)

ISBN 0 86840 706 2, AUD \$35.00

This is the updated second edition of this popular work, which depicts over 500 different native orchid species of these two Australian states in full colour. The nomenclature has been updated to include recent taxonomic changes. The photographs are of a very high standard and are arranged with similar taxa grouped together, to aid identification. For each species, there is a description, distribution and habitat, identification features, similar species and flowering time. There is also a full dichotomous key to the orchid genera of New South Wales and Victoria – followed by a similar key for each of the genera containing more than one species.

Its handy size and organization of species by botanical affinities rather than alphabetically makes it particularly suitable for use in the field. This text remains the most comprehensive and up to date pictorial field guide for those interested in locating, identifying and studying the rich orchid flora of New South Wales and Victoria. It is essential reading for those interested in Australian orchids. ■

### *Growing Dendrobium Orchids in Hawaii – Production and pest management guide.*

Edited by Ken Leonhardt & Kevin Sewake

92 pp. 280mm x 222mm Softcover.

Published by University of Hawaii.

[www.ctahr.hawaii.edu](http://www.ctahr.hawaii.edu)

(No ISBN number) USD \$19.00

This book was produced to assist the growing cut flower trade in Hawaii. The emphasis is on *Dendrobium* hybrids from the warm growing sections *Spatulata* and *Phalaenanth*, plus intersectional combinations between the two.

The authors are well known in Hawaii for their expertise, particularly in the area of integrated pest management. The section on pests and diseases is quite extensive, and appropriate to other genera. Colour photographs also supplement many of the examples quoted. This book would be most useful for growers of 'hard-cane' dendrobiums as well as nurserymen cultivating their plants in tropical climates, predominantly for the cut flower market. ■



# NEW ORCHID HYBRIDS

## JANUARY/FEBRUARY/MARCH 2000 REGISTRATIONS

Supplied by the Royal Horticultural Society as International Registration Authority for Orchid Hybrids

NAME	PARENTAGE	REGISTERED BY
<b>AERIDOVANDA</b> Julia Hamner	<i>Aér. lawrenceae</i> x <i>V. Keeree</i>	(O/U = Originator unknown)
<b>ANGRAECUM</b> White Diamond	<i>Angcm. Supertans</i> x <i>Angcm. equitans</i>	Hoosier(F.Hillerman)
<b>ANGULOCASTE</b> Weltz Pastel	<i>Lyc. Aquila</i> x <i>Ang. cliffonii</i>	S.R.Weltz
<b>ASCOCENDA</b> Clyde Mackay Le-Anne Gan	<i>V. Princess Blue</i> x <i>Ascd. Yip Sum Wah</i> <i>V. Josephine van Brero</i> x <i>Ascd. Yee Peng</i>	S.Shoesmith How Yee Peng
<b>BAKERARA</b> Fire Point	<i>Dgymra. Snow and Fire</i> x <i>Odcdm. Sorel Point</i>	R.Stevens(George Black)
<b>BARKERIA</b> Balch Monarch Bernice Bradley Bertie Foxworthy Rebecca Marsh	<i>Bark. Jim Balch</i> x <i>Bark. Marsh Monarch</i> <i>Bark. Marsh Monarch</i> x <i>Bark. spectabilis</i> <i>Bark. Jim Balch</i> x <i>Bark. uniflora</i> <i>Bark. palmeri</i> x <i>Bark. naevosa</i>	Robt.Marsh Robt.Marsh Robt.Marsh Robt.Marsh
<b>BRASSIDIUM</b> Everglades Sunray	<i>Onc. Tai</i> x <i>Brs. Rex</i>	Everglades
<b>BRASSOCATTLEYA</b> Aussie Wedding Charm Memoria Ed Beth Nirra Consentida	<i>Bc. Island Charm</i> x <i>C. Hawaiian Wedding Song</i> <i>Bc. Mount Anderson</i> x <i>B. digbyana</i> <i>C. Horace</i> x <i>B. digbyana</i>	L.Topp James Gardner(O/U) R.Sobrinho
<b>BRASSOLAELOCATTLEYA</b> Aussie Gold Tint Beautiful Lady Pat Carol Young Cosmo-Friends Donna Eblin-Hicks Goldenmaxima Green Devil Jibarita Dorada Kotan's Bridge	<i>Blc. Blumen Insel</i> x <i>Blc. Makaha Gold</i> <i>Blc. Tampico</i> x <i>C. percivaliana</i> <i>Blc. Norman's Bay</i> x <i>Lc. Irene Finney</i> <i>Blc. Pamela Hetherington</i> x <i>Lc. Just Friends</i> <i>Lc. Frederick Boyle</i> x <i>Blc. Janice Pettée</i> <i>Blc. Franklin's Opinion</i> x <i>C. Horace</i> <i>Blc. Memoria Helen Brown</i> x <i>Blc. Orglade's Moon Cheese</i> <i>C. Baby Kay</i> x <i>Blc. Orange Nuggett</i> <i>L. dayana</i> x <i>Bc. Marcella Koss</i>	Taylor Made Orch.(L.Topp) Gary Jackson(O/U) Hoodview Kokusai J.Grezaffi A.Klehm Ching Ruey Orch. R.Sobrinho T.Yuhora

NAME	PARENTAGE	REGISTERED BY
<b>BRASSOLAELOCATTLEYA</b> (continued) Lunar Eclipse Mary Lois Greer Maui Rainbow Memoria Ching-Lun Chang Memoria Eryn Toyama Midnight Kotan Mishima Dynasty Mishima Honesty Mishima Honor Mishima Orange Mishima Vintage Pequeña de Oro Schloaf Spring Verde Rosa Volcano Blue Wonder Pirika Wright Nica	<i>Blc. Charreuse Moonlight</i> x <i>C. Horace</i> <i>Blc. Memoria Roselyn Reisman</i> x <i>Lc. Molly Tyler</i> <i>Lc. Colorama</i> x <i>Bc. Donna Kimura</i> <i>Blc. Shinfong Luhyang</i> x <i>Blc. Goldenzelle</i> <i>Blc. Meditation</i> x <i>Bc. Pastoral</i> <i>Blc. Wonder Pirika</i> x <i>L. anceps</i> <i>Blc. South Ghyl</i> x <i>C. Horace</i> <i>Blc. Pamela Hetherington</i> x <i>Blc. Malibu Gem</i> <i>Lc. Robon</i> x <i>Blc. Pamela Hetherington</i> <i>Lc. Orange Gem</i> x <i>Blc. Memoria Max Goodless</i> <i>Blc. Tickled Pink</i> x <i>C. Hatsuyuki</i> <i>Bc. Déesse</i> x <i>Lc. Spring Fires</i> <i>Blc. Janice Pettée</i> x <i>Lc. Amethystella</i> <i>Blc. Golden Embers</i> x <i>Bc. Harriet Moseley</i> <i>Blc. Lois McNeil</i> x <i>Lc. Blue Boy</i> <i>Bc. Déesse</i> x <i>L. fidelensis</i> <i>Blc. Memoria Roselyn Reisman</i> x <i>Lc. Elizabeth Off</i>	A.Klehm E.S.Wright Exotic Orchids(T.Kosaki) Taihuang Orch. Exotics Hawaii T.Yuhora Hanajima's Hanajima's Hanajima's Hanajima's R.Sobrinho D.Schloaf R.Sobrinho Akatsuka Orch.Gons. T.Yuhora(Mochizuki Orch.) E.S.Wright
<b>BURRAGEARA</b> Jungle Trance	<i>Colm. Jungle Monarch</i> x <i>Oda. Laurance</i>	Everglades
<b>CATTLEYA</b> Fireball Beauty Fireball Fame Romantic Paradise	<i>C. Netrasiri Fireball</i> x <i>C. Netrasiri Beauty</i> <i>C. Netrasiri Fireball</i> x <i>C. Thospol Spot</i> <i>C. Candy Tuft</i> x <i>C. skinneri</i>	P.Viroonchan(B.Pumpleonpit) P.Viroonchan(B.Pumpleonpit) T.Yuhora
<b>CATTLEYTONIA</b> Quest's Millennium	<i>Ctna. Jamaica Red</i> x <i>Ctna. Capri</i>	Quest Orch.(Long Life[USA])
<b>CHRISTIEARA</b> Crownfox Delicious	<i>Ascd. Queen Florist</i> x <i>Aér. mlrata</i>	R.F.Orchids
<b>COLMANARA</b> Cherry Pop	<i>Odnra. Rustic Bridge</i> x <i>Mtdm. White Tiger</i>	J.McCully
<b>CORYANTHES</b> Mamadon	<i>Crths. mastersiana</i> † x <i>Crths. macrantha</i>	M. & M.F.Bourdon
<b>CORYHOPEA</b> Caramel	<i>Crths. mastersiana</i> x <i>Stan. grandiflora</i>	M. & M.F.Bourdon
<b>CYCNOCHESES</b> Bery Harder Blanche Carr	<i>Cyc. thurstoniorum</i> † x <i>Cyc. lehmannii</i> <i>Cyc. haagii</i> x <i>Cyc. pentadactylon</i>	G.Carr(K.de Lacerda) G.Carr(Bela Vista)
<b>CYMBIDIUM</b> Elizabeth Castle Emma Sidham Fong Lam Hello Dolly Jungle King Laragold Last Supper	<i>Cym. Miretta</i> x <i>Cym. Vicard Point</i> <i>Cym. Miretta</i> x <i>Cym. Cotton Candy</i> <i>Cym. Peter Piper</i> x <i>Cym. Red Beauty</i> <i>Cym. Fifi</i> x <i>Cym. Rod Stewart</i> <i>Cym. Tender Love</i> x <i>Cym. Dream Girl</i> <i>Cym. Moongold</i> x <i>Cym. Wallara</i> <i>Cym. Beaujolais</i> x <i>Cym. Sylvania</i>	E.Young O.F. Mrs S.Sidnam(Geyserland) Everglades Everglades Everglades I.D.James Everglades(A.Easton)



NAME	PARENTAGE	REGISTERED BY
<b>CYMBIDIUM (continued)</b>		
Leonie Ki	Cym. Peter Piper x Cym. Via Mar Tranquila	Everglades
Memoria Barbara Sato	Cym. Sarah Jean x Cym. Rod Stewart	Shogo Sato
Snow Leopard	Cym. Oratory Gin x Cym. Kermit's Fantasy	J.F. Weiss
Teawa	Cym. Claudona x Cym. Coratea	E. Elletad(N. Porter)
Tiger	Cym. Laragold x Cym. tigrinum	I.D. James
<b>DEVENDROBIUM</b>		
Amonguidon	Den. amethystoglossum T x Den. guenerati	M. & M.F. Bourdon
Candy Babe	Den. Van's Babe x Den. Trujillo Alto	R. Van Winkle
Doctor Sharif	Den. bigibbum x Den. Chao Praya Gem	MARDI
Donna Eblin-Hicks	Den. Charisma x Den. Rose Chong	J. Grezaffi
Floralet Indigo	Den. Anne's Rainbow Surprise x Den. kingianum	Floralet
Jeanie Woolf	Den. Anne's Rainbow Surprise x Den. Red River	Floralet
Mary Stripes	Den. Mary Mak x Den. Candy Stripe	Hawaiian FLNurs.(O/U)
Maxy's Gold	Den. Brolga x Den. Colonial Bullion	N. Roper
Melanie	Den. Binaawa Chiam x Den. Rutherford Blushing Bride	Down Under N.O.
Mingie's Mustang	Den. Kuniko x Den. pseudoglomeratum	A. Millet
Quique Ramirez	Den. Burmese Ruby x Den. Odom's Smoky Topaz	M. Ramirez(Orch. of Waiganae)
Southwestern	Den. Chanel x Den. Sri-Racha	M.C. Thompson(O/U)
Temasek Princess	Den. Masako Taki x Den. White Fairy	Neo Tuan Hong
Van's Babe	Den. Alice Cummins x Den. Halawa Beauty	R. Van Winkle(O/U)
<b>DEVEREUXARA</b>		
Crownfox Sun Splash	Phal. Asean x Ascd. Crownfox Golden Dawn	R.F. Orchids
<b>DISA</b>		
Diablo View	Disa Caspar x Disa uniflora	M. Gallagher
Japan Grand Prix	Disa Maria Spertling x	S. & M. Cywes
Morgan Bell	Disa Kim Round Table x Disa uniflora	S. & M. Cywes
<b>DORTAENOPSIS</b>		
Ashton Tippet	Dips. Su's Amour x Phal. Pamela Lady	W. Tippet
Brother Bliss	Phal. Little Steve x Dips. King Shiang's Beauty	Brother
Brother Cortez Red	Dips. Sinica Knight x Phal. Brother Purple	Brother
Brother Happy Auckland	Dips. Ho's Happy Auckland x Dips. City Girl	Brother
Brother Lady Jane	Dips. Judy Valentine x Dips. Taisuco Candystripe	Brother
Brother Lucky Strike	Phal. Brother Little Venus x Dips. Minho Stripes	Brother
Brother Pico Pinkridge	Dips. Little Gem Stripes x Phal. Carmela's Pixie	Brother
Brother Pico Redstone	Dips. Judy Valentine x Phal. Carmela's Pixie	Brother
Brother Pink Mask	Dips. Judy Valentine x Dips. Taisuco Firebird	Brother
Brother Red Flame	Dips. Judy Valentine x Dips. Taisuco Sweet	Brother
Brother Red Hot	Dips. Minho Valentine x Dips. Rose Valentine	Brother
Brother Red Splendor	Dips. Judy Valentine x Dips. Minho Princess	Brother
Brother Seamate	Dips. Mount Lip x Dips. New Candy	Brother
Brother Spotter	Dips. Brother Isabel x Phal. Brother Brungor	Brother
Brother Spring Beauty	Dips. Happy Valentine x Dips. Rose Valentine	Brother
Brother Spring Moonlight	Phal. New Cinderella x Dips. Rose Valentine	Brother
Brother Success	Dips. Rose Valentine x Phal. Strawberry Sugar	Brother
Brother Victoria	Dips. Lih Jianq Beauty x Dips. City Girl	Brother
Cecelia Elise Woodward	Dips. Yoshico's Beauty x Phal. Zuma Dancer	G. Woodward(Stewart Orch.)
Classic Dancer	Dips. Yoshico's Beauty x Phal. Zuma Dancer	Brother
Classic Moon	Phal. Morning Splendor x Dips. Hudson Bay	Hausermann

NAME	PARENTAGE	REGISTERED BY
<b>DORTAENOPSIS (continued)</b>		
Clinton Collins	Phal. Be Glad x Dips. Mini Mist	S. Collins
Cosmo-Purity	Phal. Grand City x Dips. Orglade's Puff	Kokusai
Dina Emig	Dips. Duki x Phal. Eugene Stiton	K. & D. Emig
Edward Rossolile	Phal. Smile Maker x Dips. Sno-Cone	Hausermann
Eternal Jewel	Phal. Joy Rothman Silverman x Dips. Lavender Jewel	Hausermann
Hamana Melinda	Phal. Glad Melinda x Phal. Happy Valentine	Saeki Nurs.
Hampshire Dame	Dips. Taisuco Sweet x Phal. Abendrot	Saeki Nurs.
Ho's Colourful Lip	Phal. Dame de Coeur x Dips. Inverness Fire	A. Klehm
Hsinton Coral	Phal. philippinensis x Dips. Dalyan	Tin-Fan Ho
Hsinton Park	Dips. Hsinying's Coral x Dips. Modern Rose	Ching Hua
Hsinying Palabe	Dips. Minho Princess x Phal. Tainan Park	Ching Hua
Hsinying Vera	Phal. Hsinying Palady x Dips. Taisuco Beauty	Ching Hua
Hsinying Webber	Dips. Veracruz x Phal. Hsinying Park	Ching Hua
Isabel Maria	Dips. Happy Valentine x Phal. Hsinying Blush	Ching Hua
Janine Vcelka Kennedy	Dips. Taisuco Candystripe	Hausermann
John Vcelka	x Phal. Hausermann's Goldcup	Hausermann
Joie	Dips. Pretty Nice x Phal. Sandra Tullis Galaxy	Hausermann
Kathlyn's Rose	Phal. Chickasaw x Dips. Taisuco Candystripe	Hausermann
Lavender Gem	Phal. Festive Mood x Dips. Magenta Spray	Hausermann
Lavender Haze	Phal. Spring Silk x Dips. King Shiang's Rose	J. Stonker
Lillian Natalie Vcelka	Dips. Inverness Firebrand x Phal. Charly Lace	Hausermann
Linda Rose Rice	Dips. Federato x Phal. Shahid Ekbal	Hausermann
Little Puff	Dips. Royal Jewel x Phal. Jungle Magic	Hausermann
Marjorie Sheldander	Phal. Head Turner x Dips. Candy Harbor	Hausermann
Mau Rose	Dips. Manuel Leandro x Dips. Fair Dawn	Hausermann
Memoria Leo Fregeau	Dips. Orglade's Puff x Phal. equestris	Hausermann
Minho Bird	Dips. Pisgah Jewel x Phal. Pisgah Glory	Windsong
Mini Mist	Dips. Happy Valentine x Phal. Day Break	Owens Orchids
Miva Beatrice	Phal. Prairie Du Sac x Dips. Alberto Romero	Exotic Orchids
Monterey Gold	Dips. Mount Beauty x Dips. Hamakita Beauty	Hausermann
Neapolitan Charm	Phal. Mini Hawaii x Dips. Canyon Mist	Min-Ho
Pisgah Ransom	Dor. pulcherrima x Phal. Barbara Golden	S. Collins
Raspberry Delight	Dips. Autumn Leaves x Phal. Orchardview Sunsplash	S. Collins
Red Equinox	Dips. King Shiang's Beauty x Dips. Taisuco Sweet	Mr/Mrs L. LeBuff
Royal Opening	Phal. King's Ransom x Dips. Margery Adams	Owens Orchids
Sensational Surprise	Dips. Taisuco Candystripe x Dips. Kittyhawk	Hausermann
Sparkling Sapphire	Dips. Taisuco Pixie x Phal. Purple Phantom	Hausermann
Springfield Snow	Dips. Blushing Heat x Phal. Soft Whisper	Hausermann
Supreme Galaxy	Phal. Dmitrios Simnis x Dips. Taisuco Sweet	Hausermann
Sweet Seraya	Dips. Mount Beauty x Phal. Grand City	Omaha Orch.(O/U)
Thomas Felner	Dips. Raving Beauty x Phal. Angel Dancer	Hausermann
Violet Lace	Phal. Ice Breaker x Dips. Seraya	Hausermann
Windsong Red Eye	Dips. Malibu Music x Phal. Sweet and Dandy	K. & D. Emig
Windsong's Ram	Phal. Sonnentau x Dips. Orglade's Puff	Hausermann
Winter Sunrise	Dips. Cassandra x Dips. Inverness Firebrand	Hausermann
EPICATTLEVA	Dips. Little Puff x Phal. Zuma Urchin	Windsong
Fringe Festival	Dips. Ramsden x Phal. Lippegruss	Windsong
Ruth Chun's Passion	Dips. Seraya x Phal. White Velvet	Hausermann
Epic Melon Surprise x Epi. ilense		M. Light
Epic Fuchs Sunglow x Epi. ilense		R. Chun(W.A. Chang)



NAME	PARENTAGE	REGISTERED BY
<b>EPIDENDRUM</b>		
Calypso Doll	<i>Epi. janeirensae</i> x <i>Epi. Plastic Doll</i>	M.Light
Panama Ruby	<i>Epi. medusae</i> x <i>Epi. porpax</i>	Maduro's Trop.Fl.
<b>EURYANGIS</b>		
Gallant	<i>Echn. galeandrae</i> x <i>Aérgs. distincta</i> †	Hoosier(F.Hillerma†)
<b>HAMELWELLSARA</b>		
Georgie	Z. Artur Elle x <i>Hmwsa. Margaret</i>	R.Stevens(George Black)
<b>HASEGAWAARA</b>		
Mickey's Gale	<i>Hknsa. Alice Iwanaga</i> x <i>B. nodosa</i>	Mickey's
<b>LAELIA</b>		
Mishima Bouquet	<i>L. Mishima Purple</i> x <i>L. dayana</i>	Hanajima's
Mishima Purple	<i>L. purpurata</i> x <i>L. rubescens</i>	Hanajima's
<b>LAELIOCATTLEYA</b>		
Astoria's Sunset Glow	<i>Lc. Amber Glow</i> x <i>Lc. Sunset Flare</i>	Banholzer
Chinita Pintada	<i>C. Cognac</i> x <i>Lc. Trick</i> or Treat	R.Sobrinho
Copacetic	<i>C. Chocolate Drop</i> x <i>Lc. Elizabeth Off</i>	E.S.Wright
Cosmo-Puppinney	<i>Lc. Puppy Love</i> x <i>Lc. Irene Finney</i>	Kokusai
Heidi Kirkpatrick	<i>Lc. Mini Purple</i> x <i>Lc. Mariner</i>	F.Clark
Highland Treat	<i>Lc. Trick</i> or Treat x <i>L. albid</i>	F.Greuter(H.Hottinger)
Irma Hottinger	<i>Lc. Mermoz</i> x <i>C. peruvialiana</i>	T.Yuhora
Midnight Dream	<i>Lc. Melody Fair</i> x <i>L. punilla</i>	Hanajima's
Mishima Hope	<i>Lc. Amazonas</i> x <i>Lc. Mildred Rives</i>	Hanajima's
Mishima Sunrise	<i>Lc. Nippon</i> x <i>Lc. Melody Fair</i>	T.Yuhora
Romantic Poem	<i>C. Angelwalker</i> x <i>Lc. Sweet Candy</i>	J.Terris(C.Whitlow)
Sea of Cortez	<i>C. gaskelliana</i> x <i>Lc. Blue Boy</i>	
<b>LYCASTE</b>		
Alwine Miller	<i>Lyc. Janice Miller</i> x <i>Lyc. Sunset</i>	J. & A. Miller
Sagittarius	<i>Lyc. brevispatha</i> x <i>Lyc. Shima</i>	Y.Suzuki
Taurus	<i>Lyc. brevispatha</i> x <i>Lyc. aromatica</i>	Y.Suzuki
<b>MASDEVALLIA</b>		
Conjio Pintado	<i>Masd. Sunset Jaguar</i> x <i>Masd. exquisita</i>	Maduro's Trop.Fl.
Dick Doran	<i>Masd. Urubamba</i> x <i>Masd. ayabacana</i>	Silva Orch.(Bart.Schwarz)
Golden Nugget	<i>Masd. Owen Nells</i> x <i>Masd. marthae</i> †	Maduro's Trop.Fl.
Kismet	<i>Masd. Misfit</i> x <i>Masd. mystica</i> †	Hoosier
Maui Plum	<i>Masd. calura</i> x <i>Masd. panguensis</i>	I.Komoda
Memoria Augusto Silva	<i>Masd. Urubamba</i> x <i>Masd. Marguerite</i>	Silva Orch.(Bart.Schwarz)
Panama Stripes	<i>Masd. yungasensis</i> x <i>Masd. decumana</i>	Maduro's Trop.Fl.
Pinky	<i>Masd. Peach Fuzz</i> x <i>Masd. glandulosa</i>	Maduro's Trop.Fl.
<b>MILTONIA</b>		
Belle Hougue Point	<i>Milt. Mount Bingham</i> x <i>Milt. Bel Royal</i>	E.Young O.F.
Burney Falls	<i>Milt. Emotion</i> x <i>Milt. Jolene Carlson</i>	R.Stone
La Ponterrin	<i>Milt. Maufant</i> x <i>Milt. Akagi</i>	E.Young O.F.
Max Cat Suki	<i>Milt. Kay Rinaman</i> x <i>Milt. Goodnews Bay</i>	C.Caswell
<b>MILTONIDIUM</b>		
Andy	<i>Milt. Anne Warne</i> x <i>Onc. durangense</i>	M.Light

NAME	PARENTAGE	REGISTERED BY
<b>ODONTIODA</b>		
Alltrix	<i>Oda. Trixell</i> x <i>Oda. Trixero</i>	I.D.James
Helen Rolly	<i>Oda. Pentland</i> x <i>Oda. Saint Clement</i>	Rollyridge Orch.(Orchid House)
Mont Nicholle	<i>Oda. Bellozanne</i> x <i>Odm. Many Waters</i>	E.Young O.F.
Nichirei Camellia	<i>Oda. Roymar</i> x <i>Oda. Camellia Queen</i>	Nichirei Corp.(Dogashima)
Nichirei Camellia Lady	<i>Oda. Nichirei Camellia</i> x <i>Oda. Dewsbury</i>	Nichirei Corp.(Dogashima)
Nichirei Drumupum	<i>Oda. Drumory</i> x <i>Oda. Florispum</i>	Nichirei Corp.(Dogashima)
Nichirei Geresto	<i>Oda. Haniesto</i> x <i>Oda. Gereon</i>	Nichirei Corp.(M.Tibbs)
Nichirei Lilac	<i>Oda. Queen of Hearts</i> x <i>Oda. Durham Castle</i>	Nichirei Corp.(Golden Gate)
Nichirei Lilac Morning	<i>Oda. Dewsbury</i> x <i>Oda. Lovely Morning</i>	Nichirei Corp.(Dogashima)
Nichirei Morn	<i>Oda. Lovely Morning</i> x <i>Odm. Glyndebourne</i>	Nichirei Corp.(Dogashima)
Wellmar	<i>Oda. Colwell</i> x <i>Oda. Ingmar</i>	Akatsuka Orch.Gdhs. (McBean's)
<b>ODONTOCIDIUM</b>		
Tiger Star	<i>Odcdm. Tiger Night</i> x <i>Odcdm. Isler's Goldregen</i>	K.Funk(Golden Gate)
<b>ODONTOGLOSSUM</b>		
Nichirei Prospect	<i>Odm. Sorel Point</i> x <i>Odm. Wearside Prospect</i>	Nichirei Corp.(M.Tibbs)
Wessner Winter Dream	<i>Odm. Coupe Point</i> x <i>Odm. Mont Neron</i>	F.Glanz
<b>ODONTONIA</b>		
Nichirei Purple Star	<i>Milt. Nichirei Purple King</i> x <i>Odm. Augres</i>	Nichirei Corp.
<b>ONCIDIUM</b>		
Alameda Joy	<i>Onc. Alameda Magic</i> x <i>Onc. Lindsey Kone</i>	W.Savage
Alameda Magic	<i>Onc. Thriller</i> x <i>Onc. Spiffy</i>	W.Savage(Richella)
Candy Clown	<i>Onc. Cotton Candy</i> x <i>Onc. triquetrum</i>	Dr/Mrs K.Wilson
Crimson Vell	<i>Onc. Snow Shower</i> x <i>Onc. Regina</i>	Dr/Mrs K.Wilson
Golden Sunshine	<i>Onc. Little Ramsey</i> x <i>Onc. Golden Sunset</i>	Dr/Mrs K.Wilson
Growers Choice	<i>Onc. Gower Ramsey</i> x <i>Onc. gravesianum</i>	Everglades
Red Glow	<i>Onc. Sun Glow</i> x <i>Onc. Regina</i>	Dr/Mrs K.Wilson
Rustic Coppertone	<i>Onc. orgyle</i> x <i>Onc. microphilum</i> †	H.Liebman
<b>PAPHIOPEDILLUM</b>		
Anne's Fairytale	<i>Paph. Anne Shirley</i> x <i>Paph. fairreanum</i>	Mochizuki Orch.
Bailey Kalina	<i>Paph. fairreanum</i> x <i>Paph. tigrinum</i>	Fox Valley(T.Kalina)
Blizzard	<i>Paph. Acclamation</i> x <i>Paph. Jack Tonkin</i>	Orchids Royale
Blooming Bay	<i>Paph. Florence Jones</i> x <i>Paph. Buena Bay</i>	A & P Orch.
Brecko Vistasuk	<i>Paph. Vista Wish</i> x <i>Paph. sukhakuli</i>	Breckinridge
Burgunport	<i>Paph. Red Mist</i> x <i>Paph. Maudslae</i>	R. & C.Pearson(O/U)
Bushwacker	<i>Paph. Jenna Marie</i> x <i>Paph. Dazzler</i>	Orchids Royale
Carl Niemann	<i>Paph. Salvatore Dali</i> x <i>Paph. armeniacum</i>	Mochizuki Orch.
Casino Express	<i>Paph. H. G. Vander Sluis</i> x <i>Paph. Winston Churchill</i>	Orchids Royale
Chief Mystic	<i>Paph. Chief Eagle</i> x <i>Paph. Mystic Isle</i>	A & P Orch.
Clifford Peter	<i>Paph. Golden Days</i> x <i>Paph. Magic Mood</i>	Torrance Cym.Soc. (Geyserland)
Dame Janet Baker	<i>Paph. Yerba Buena</i> x <i>Paph. Kay Rinaman</i>	G.Lawless(Orchid House)
Desert Star	<i>Paph. Stary Sky</i> x <i>Paph. Masterhold</i>	Mochizuki Orch.
Elizdrienne	<i>Paph. Supersuk</i> x <i>Paph. Wellesleyanum</i>	Banholzer
Emma Decker	<i>Paph. malipoense</i> x <i>Paph. Fumi's Delight</i>	G.Decker
Fall Classic	<i>Paph. Magic Mood</i> x <i>Paph. Scruples</i>	Orchids Royale
Green Strumpet	<i>Paph. Greenstede</i> x <i>Paph. Gabriel's Trumpet</i>	A.Klehm
Hamana Bros	<i>Paph. Joanne's Wine</i> x <i>Paph. Vallarow</i>	Saeki Nurs.



NAME	PARENTAGE	REGISTERED BY
<b>PAPHIOPEDILUM (continued)</b>		
Hamana Cruise	<i>Paph. Vallarow x Paph. Keyeshill</i>	Saeki Nurs.
Hamana Planet	<i>Paph. callosum x Paph. Greyi</i>	Saeki Nurs.
Hamana Rasta	<i>Paph. Tree of Glory x Paph. Omdurman</i>	Saeki Nurs.
Hamana Soul	<i>Paph. Hamana Sea x Paph. Omdurman</i>	A.Klehm
Hampshire Desire	<i>Paph. Desire x Paph. Winston Churchill</i>	A.Klehm
Hampshire Gem	<i>Paph. Inca x Paph. Sharp Gem</i>	Orchids Royale
Heavenly Daze	<i>Paph. Magic Mood x Paph. Strut</i>	Ching Hua
Hsinying Fleckles	<i>Paph. Fleckles x Paph. Diversion</i>	A & P Orch.
Hsinying Johnbourn	<i>Paph. Sharnden x Paph. Johnbourn</i>	A.Klehm
Jolly Bay	<i>Paph. Jolly Green Gem x Paph. Buena Bay</i>	Mukoyama(M.Kimura)
Katherine Doell	<i>Paph. Prime Child x Paph. godefroyae</i>	Mukoyama(M.Kimura)
Kimura's Calder	<i>Paph. Nigel Calder x Paph. Grove</i>	Mukoyama(M.Kimura)
Kimura's Fairy	<i>Paph. Olympic Forest x Paph. Mayfair</i>	Mukoyama(M.Kimura)
Kimura's Fleckles	<i>Paph. Milmoore x Paph. Fleckles</i>	Mukoyama(M.Kimura)
Kimura's Moor	<i>Paph. Milmoore x Paph. Burham</i>	Mukoyama(M.Kimura)
Kimura's Winhill	<i>Paph. Kimura's Tower x Paph. Winston Churchill</i>	G.Lawless(Orchid House)
Lady Margaret Thatcher	<i>Paph. Simon x Paph. Acker's Pinnacle</i>	E.Young O.F.
La Folie	<i>Paph. Elizabeth Castle x Paph. Andronicus</i>	G.Lawless(Orchid House)
Lawless Maistersinger	<i>Paph. Via Alegre x Paph. primuminum</i>	G.Lawless(J.L.Fischer)
Lawless Othello	<i>Paph. Black Velvet x Paph. wardii</i>	G.Lawless(Orchid House)
Lawless Siegfried	<i>Paph. Golden Diana x Paph. Van Ness</i>	Masaharu Suzuki
Love Maruyama	<i>Paph. Dividendo x Paph. Moreton Bay</i>	A.Klehm
Love Yokohama	<i>Paph. Transvaal x Paph. Leo Organo</i>	A.Klehm
Lucinda Lachellin	<i>Paph. Faire-Maud x Paph. lawrenceanum</i>	A.Klehm
Magelight	<i>Paph. Magic Mood x Paph. Nulight</i>	A.Klehm
Magic Oak	<i>Paph. Magic Mood x Paph. Green Oak</i>	A.Klehm
Massachusetts Berry	<i>Paph. Farnbera x Paph. Ceaser Pitta</i>	A & P Orch.(Robert D.Jones)
Massachusetts Valor	<i>Paph. Valwin x Paph. Massachusetts Berry</i>	A & P Orch.
Matoaka Summer	<i>Paph. Green Jewel x Paph. Dame Janet Baker</i>	G.Lawless(Orchid House)
Maurice Butler	<i>Paph. Via Fuerte x Paph. Great Pacific</i>	E.Zi.Gro(O.U)
Memoria Bob Collins	<i>Paph. Ayot Saint Lawrence x Paph. Valwin</i>	A.Klehm
Miyabi Arrow	<i>Paph. Amanda's Arrow x Paph. Miyabi Genji</i>	N.Izum
Miyabi Asagao	<i>Paph. Pacific Ocean x Paph. Cosmos</i>	N.Izum(M.Yamazaki)
Miyabi Hamachirusato	<i>Paph. Miyabi Utage x Paph. Miyabi Genji</i>	N.Izum
Miyabi Suzuki	<i>Paph. Pacific Ocean x Paph. Tiger Top</i>	N.Izum(Tokyo O.N.)
Mol Blanche	<i>Paph. Alwine x Paph. Blanche Sawyer</i>	Mukoyama
Mol Garden	<i>Paph. Maudiae x Paph. Gothic Garden</i>	Mukoyama
Mol Gate	<i>Paph. Yearly Festival x Paph. Over the Gate</i>	Mukoyama
Mol Jack	<i>Paph. Jack Tonkin x Paph. Kay Penny</i>	Mukoyama
Mol Margarita	<i>Paph. Chorille Margarita x Paph. Winston Churchill</i>	Mukoyama
Mol Maud	<i>Paph. Strathacra x Paph. Maudiae</i>	Mukoyama
Mol Mauve	<i>Paph. Mauve Garden x Paph. Maudiae</i>	Mukoyama
Mol Ninos	<i>Paph. Via Muchos Ninos x Paph. Kay Penny</i>	Mukoyama
Mol Over	<i>Paph. Over the Gate x Paph. Overraeus</i>	Mukoyama
Mol Sawyer	<i>Paph. Blanche Sawyer x Paph. Lovely Land</i>	Mukoyama
Mol Shower	<i>Paph. Shower Meadow x Paph. Overraeus</i>	Mukoyama
Mol Somnilis	<i>Paph. Somers Isles x Paph. Venus Hold</i>	Mukoyama
Mol Win	<i>Paph. Elegance x Paph. Winston Churchill</i>	Mukoyama
Mol Winning	<i>Paph. Winning Kimura x Paph. Winston Churchill</i>	Mukoyama
Mol Yard	<i>Paph. Minster Honda x Paph. Lovely Yard</i>	Mukoyama
Moonburst	<i>Paph. Diversion x Paph. Halo</i>	Mochizuki Orch.
Myost Garden	<i>Paph. Mystic Jewel x Paph. Gothic Garden</i>	Mukoyama(Geyserland)
Outer Limits	<i>Paph. sukakuii x Paph. Magic Mountain</i>	Orchids Royale

NAME	PARENTAGE	REGISTERED BY
<b>PAPHIOPEDILUM (continued)</b>		
Red Alert	<i>Paph. John Hanes x Paph. Maudiae</i>	Orchids Royale
Risa Burgess	<i>Paph. victoria-mariae x Paph. micranthum</i>	D.Eickhoff
Risky Business	<i>Paph. Spumoni x Paph. Jenna Marie</i>	Orchids Royale
Rocky Road	<i>Paph. Malherbe x Paph. Idolmaker</i>	Orchids Royale
Rotorua Call	<i>Paph. Hamana Makusum x Paph. Goutenianum</i>	Mukoyama(Geyserland)
Rotorua Somers	<i>Paph. Goutenianum x Paph. Somers Isles</i>	Mukoyama(Geyserland)
Roxie Hart	<i>Paph. Maudiae x Paph. Black Velvet</i>	A.Klehm
Sabrina Eickhoff	<i>Paph. exul x Paph. godefroyae</i>	D.Eickhoff
Sharp Gem	<i>Paph. Harpely x Paph. Via Gema</i>	A.Klehm(O.U)
Sheer Bliss	<i>Paph. Windsong x Paph. Night Sky</i>	Orchids Royale
Shootout	<i>Paph. Amandaill x Paph. Ruby Magic</i>	Orchids Royale
Sierra Grande	<i>Paph. Idolmaker x Paph. Response</i>	Orchids Royale
Swansea Treasure	<i>Paph. Sunken Treasure x Paph. wardii</i>	A & P Orch.
Thomas Fourman	<i>Paph. Iernianum x Paph. malipoense</i>	S.Krauss(O.U)
Thunder Mountain	<i>Paph. Jenna Marie x Paph. Thunder Eagle</i>	Orchids Royale
Tiger Alert	<i>Paph. Tiger Top x Paph. Pandemonium</i>	Orchids Royale
Treasure Bell	<i>Paph. Sunken Treasure x Paph. bellatulum</i>	A & P Orch.
Turbulence	<i>Paph. Thunder Bay x Paph. Langley Pride</i>	Orchids Royale
Windsong	<i>Paph. Laila Emami x Paph. Evansrose</i>	Orchids Royale
Winston Bay	<i>Paph. Buena Bay x Paph. Winston Churchill</i>	A & P Orch.
Worthy Bay	<i>Paph. Buena Bay x Paph. charlesworthii</i>	A & P Orch.
Wössner Kolobarb	<i>Paph. kolopakingii x Paph. barbatum</i>	F.Glanz
Wössner Stonesup	<i>Paph. stonei x Paph. supardii</i>	F.Glanz
Xie Xie	<i>Paph. glaucophyllum x Paph. tigrinum</i>	D.Pulley
<b>PESCORANTHES</b>		
Amazon Crown	<i>Pes. coronaria x Criths. amazonica</i>	A.Klehm
<b>PHAIUS</b>		
Koloa	<i>Phaius tankervilleae x Phaius humblotii</i>	D.Boucher
<b>PHALAENOPSIS</b>		
Andrea's Baby	<i>Phal. Bamboo Baby x Phal. Andrea Niessen</i>	A.Klehm
Bedford Brungor	<i>Phal. Brother Violet x Phal. Brother Brungor</i>	H.Ginsberg
Bedford Budding Jutta	<i>Phal. Ching Her Buddha x Phal. Brother Brungor</i>	H.Ginsberg
Bedford Fiery Larry	<i>Phal. Fireberry x Phal. Taida Lawrence</i>	H.Ginsberg
Bedford Lawrence Budding	<i>Phal. Ching Her Buddha x Phal. Taida Lawrence</i>	H.Ginsberg
Brecko Cordablaze	<i>Phal. Cordova x Phal. Ruby Blaze</i>	Breckinridge
Brecko Kisslin	<i>Phal. Lin Jessica x Phal. Midnight Kiss</i>	Breckinridge
Brecko Neon Princess	<i>Phal. Neon Stripes x Phal. Princess Kaulani</i>	Breckinridge
Brecko Sweet Jess	<i>Phal. Sweet Memory x Phal. Lin Jessica</i>	Breckinridge
Brother Bonita	<i>Phal. Brother Delight x Phal. Brother Purple</i>	Brother
Brother Burgee	<i>Phal. Little Steve x Phal. Matou Rose</i>	Brother
Brother Century	<i>Phal. Ginrei x Phal. philippinensis</i>	Brother
Brother Dendi	<i>Phal. Brother Lawrence x Phal. Sara Lee</i>	D.Diehm(Brother)
Brother Dune	<i>Phal. Brother Peak x Phal. Rothschildiana</i>	Brother
Brother Eclipse	<i>Phal. Palfang's Tsung Shen x Phal. Princess Violet</i>	Brother
Brother Embrace	<i>Phal. Super Stupid x Phal. Joey</i>	Brother
Brother Engage Bootie	<i>Phal. Brother Treasure x Phal. Penang Girl</i>	Brother
Brother Explore	<i>Phal. Brother Magic x Phal. Brother Mirage</i>	Brother
Brother Golden Jaguar	<i>Phal. Musashino x Phal. Brother Passat</i>	Brother
Brother Golden Wave	<i>Phal. Brother Passat x Phal. Brother Victory</i>	Brother
Brother Green Jade	<i>Phal. Bamboo Baby x Phal. Brother Passat</i>	Brother



NAME	PARENTAGE	REGISTERED BY
<b>PHALAEOPSIS (continued)</b>		
Brother Honey Dew	Phal. Fortune Buddha x Phal. Brother Sophia	Brother
Brother John	Phal. Brother Delight x Phal. Brother Brungor	D.Dierhm(Brother)
Brother Key West	Phal. Ginrei x Phal. Taisuco Windian	Brother
Brother Little Venus	Phal. Cassandra x Phal. Carmela's Stripe	Brother
Brother Mickey Mouse	Phal. Sara Lee x Phal. Rothschildiana	Brother
Brother New Player	Phal. Brother Gold Miss x Phal. Brother Victory	Brother
Brother Nobelstar	Phal. Brother Sara Gold x Phal. Brother Purple	Brother
Brother Oriental Artist	Phal. Brother Danseuse x Phal. Brother Fancy	Brother
Brother Oxford	Phal. Brother Passat x Phal. Brother Stage	Brother
Brother Peptide	Phal. Sara Lee x Phal. Brother Passat	Brother
Brother Peterstar	Phal. Sara Lee x Phal. Brother Stage	Brother
Brother Picacho	Phal. Mahalo x Phal. Brother Purple	Brother
Brother Pico Bahama	Phal. Brother Passat x Phal. Timothy Christopher	Brother
Brother Pico Hunter	Phal. Little Steve x Phal. Little Mary	Brother
Brother Pico Jasper	Phal. Cassandra x Phal. Timothy Christopher	Brother
Brother Pico Lovelace	Phal. Brother Pico Snow x Phal. Timothy Christopher	Brother
Brother Pico Pearl	Phal. Brother Amar x Phal. Timothy Christopher	Brother
Brother Pico Redwing	Phal. Brother Matou Tris x Phal. Carmela's Pixie	Brother
Brother Red Hotshot	Phal. Brother Treasure x Phal. Sara Lee	Brother
Brother Red Mist	Phal. Fortune Buddha x Phal. Princess Violet	Brother
Brother Relaxed Fit	Phal. Brother Flare x Phal. Tabasco Tex	Brother
Brother Sport Utility	Phal. Fortune Buddha x Phal. Brother Magic	Brother
Brother Spotlight	Phal. Carmela's Spots x Phal. Brother Brungor	Brother
Brother Spring Dancer	Phal. Be Tris x Phal. Timothy Christopher	Brother
Brother Spring Morning	Phal. Be Tris x Phal. Rothschildiana	Brother
Brother Spring Song	Phal. Winter Dawn x Phal. amabilis	Brother
Brother Sweet Memory	Phal. Brother Fancy x Phal. Brother Mirage	Brother
Brother Tahoe	Phal. Brother Magic x Phal. Brother Flare	Brother
Brother Trekkie	Phal. floresensis x Phal. micholitzii	Brother
Brown Gold	Phal. Heavenly Gold x Phal. Paul Tatar	Brother
Byan's Surprise	Phal. Housemann's Charm	Windsong
	x Phal. Sensational Opening	Housemann
Cerise Blanche	Phal. Line Renaud x Phal. Redtan	M. & M.F.Bourdon
Chaco Rose	Phal. Chaco Canyon x Phal. Abendrot	J.Sloniker(O/U)
Christina Louise	Phal. Ruffec x Phal. Cassandra	W.Tippit
Clown Cissimo	Phal. Miva Dolcissimo x Phal. Pink Clown	John Hutchinson
Cosmo-Vegas	Phal. Garnetfrost x Phal. Bright Lights	Kokusai
Crème de Golgol	Phal. Orangefield Pride x Phal. Spitzberg	M. & M.F.Bourdon
Da-chien Spider Beauty	Phal. Chih Shang's Stripes	
	x Phal. Ho's French Fantasia	Ming-Rong Tsay
Deppe Lawrence	Phal. Carol Deppe x Phal. Brother Lawrence	John Hutchinson
Devon Polly	Phal. Goldflake x Phal. Deventeriana	A.Kiehm
Endearment	Phal. Lin Jessica x Phal. Jean Belue	H.P.Norton
Fabiennne Dream	Phal. schilleriana x Phal. viridis	L. Vincent
Fancy Welcome	Phal. Martin's Queen x Phal. equestris	Housemann
Fantasy Queen	Phal. Cathay x Phal. Prairie Du Sac	Housemann
Frosty Miracle	Phal. Purple Pattern x Phal. Carmela's Wild Thing	Housemann
Giant Wine	Phal. Summer Wine x Phal. gigartea	R. Vernon
Golden Galaxy	Phal. Purple Royale x Phal. Golden Vintage	Housemann
Golden Triumph	Phal. Golden Bells x Phal. Golden Daybreak	H.P.Norton
Hamana Fancy	Phal. Zuma's Pixie x Phal. Zuma Flash	Saeki Nurs.
Hamana Flag	Phal. New Glad x Phal. Zuma Red Eye	

NAME	PARENTAGE	REGISTERED BY
<b>PHALAEOPSIS (continued)</b>		
Hamana Mary	Phal. Glad Melinda x Phal. Zuma Flash	Saeki Nurs.
Hemety Sunrise	Phal. Golden Pecker x Phal. verosa	G.Stall
Icey White	Phal. Atien Nasu x Phal. Penguin	Housemann
Illini White	Phal. Ruth Edelman x Phal. White Velvet	Housemann
Jacque Vockla Vu	Phal. Untario x Phal. Justin Lee Wheeler	Orchid Plantation
Jamie Roteman	Phal. Brandy Parfait x Phal. Latin Rhythm	Housemann
John Alan Vu	Phal. Yellow Orient x Phal. Housemann's Galaxy	Housemann
Katie Rutherford	Phal. Penang x Phal. Little Netsuke	W.Tippit
Kelly Peters	Phal. Housemann's Candy x Phal. Magenta Star	Housemann
Latin Rhythm	Phal. Bola De Menta x Phal. Ogrlade's Checkmate	Orchid Plantation(Coqui)
Lavender Dancer	Phal. Classy Lassie x Phal. Chosen One	Housemann
Lip Gloss	Phal. Stephen Wilson x Phal. Tom Nawa	Housemann
Mau Blush	Phal. Hawaiian Legend x Phal. Alysha's Rose	Exotic Orchids
Mauve Mood	Phal. Welcome Home x Phal. Martin's Queen	Housemann
Memoria Rose Sulek	Phal. Ruth Edelman x Phal. Illini Star	Housemann
Misty Ice	Phal. Misty Moonlit Night x Phal. Glacier Ice	Housemann
Misty White	Phal. Penguin x Phal. Twinkle Toes	Housemann
Miva Basile	Phal. Sonnentau x Phal. lindenil	Michel Vacherot
Miva Charlotte	Phal. Barbara Golden x Phal. Arromanches	Michel Vacherot
Miva Gavotte	Phal. Barbara Golden x Phal. stuartiana	Michel Vacherot
Mivanny	Phal. verosa x Phal. Miva Granny	Housemann
Moonlight Spin	Phal. Spindrift x Phal. Adelaide Skoglund	Housemann
Mother's Angel	Phal. Mother's Love x Phal. Angel Hair	Housemann
Mountain Plum	Phal. Housemann's Charity x Phal. Lilac Winter	Housemann
Naples Snow	Phal. Snow Hot x Phal. Naples Nights	A.Kiehm
Pink Skies	Phal. Redfan x Phal. Morgenrot	M. & M.F.Bourdon(P.Villefroy)
Pisgah Princess	Phal. Tungku Afzan x Phal. Prairie Pink	Housemann
Pixie Windsong	Phal. Alice Sharpe x Phal. Amelia Princess	Owens Orchids
Plantation Gamet Fire	Phal. Elven Windsong x Phal. Zuma's Pixie	Windsong
Plantation Yellow Bells	Phal. Ember x Phal. Zuma Garnet	Orchid Plantation
Poem Windsong	Phal. Brother Lawrence x Phal. Orchidview Bealinger	Orchid Plantation
Porcelain Treasure	Phal. Berries 'n Cream x Phal. Zuma Poem	Windsong
Prairie Bride	Phal. Dawn Treader x Phal. Porcelain Pleasure	H.P.Norton
Prairie Festival	Phal. Heaven's Pride x Phal. Misty Moonlit Night	Housemann
Purple Monark	Phal. Priority One x Phal. Prairie Dancer	Housemann
Radiant Galaxy	Phal. Kathy Herdrich x Phal. Royal Monarch	Housemann
Radiant Joy	Phal. Welcome Line x Phal. Rainbow Spectrum	Housemann
Royale Sunrise	Phal. Ice Breaker x Phal. Dutch Treat	Housemann
Royal Impression	Phal. Joy Rothman Silverman x Phal. Purple Royale	Housemann
Royal Prism	Phal. Mount Irene x Phal. Smile Maker	Housemann
Scott's Salsa	Phal. Housemann's Charity x Phal. Candied Prism	Housemann
Sensational Smile	Phal. Hampshire Salsa x Phal. Scott Eugene	A.Kiehm
Sheer Orient	Phal. Aalsmeer Rose x Phal. Smile Maker	Housemann
Shelby Renee Vcelka	Phal. Glacier Ice x Phal. Memoria Michael Fine	Housemann
Silver Wings	Phal. Housemann's Goldcup x Phal. Yankee Lass	Housemann
Simply Sensational	Phal. Gypsy Belle x Phal. Smile Maker	Housemann
Sio's Spot Touch	Phal. Hatsuyuki x Phal. Snow Blizzard	Housemann
Sio's Spring Leopard	Phal. Carmela's Spots x Phal. Papa Cass	Sky Island
Sio's Spring Star	Phal. Spring Glow x Phal. Sea Leopard	Sky Island
Sio's Tudor Sunrise	Phal. Spring Glow x Phal. Radiant Star	Sky Island
Sinus	Phal. Elizabeth Tudor x Phal. Miami Sunrise	Kokubunji
Sweet Touch	Phal. Cygnus x Phal. White Bridal	Housemann
	Phal. Powdered Sugar x Phal. Angel's Touch	



NAME	PARENTAGE	REGISTERED BY
<b>PHALAENOPSIS (continued)</b>		
Tammi Josephine	Phal. Rainbow Spectrum x Phal. Royal Monarch	Hausermann
Tatar Candy	Phal. Paul Tatar x Phal. Hausermann's Candy	Windsong
Toh Floreclitas	Phal. Malibu Melinda x Phal. <i>equestris</i>	Orchid Hatchery
Tom's Angels	Phal. White Heat x Phal. Tom Nawa	Hausermann
Unique Charm	Phal. Frances Margaret Weber x Phal. Martin's Queen	Hausermann
Velvet Joy	Phal. Joy Rothman Silverman x Phal. Plum Wine	Hausermann
Venus Beauty	Phal. Su-An Cricket x Phal. <i>venosa</i>	H.Ginsberg(O/U)
Whidmir's Harmony	Phal. Carmela's Wild Thing x Phal. Vladimir Horowitz	Sky Island(Carmela)
White Bridal	Phal. Tokyo Bridal x Phal. Hsinying White	Kokubunji
Windsong's Devendrot	Phal. Deventeriana x Phal. Abendrot	Windsong
Windsong's Imp	Phal. Malibu Imp x Phal. Berries 'n Cream	Windsong
Windsong's Peach	Phal. Donald Rigg x Phal. Candy Windsong	Windsong
Windsong's Smile	Phal. <i>stuartiana</i> x Phal. Taisuco Smile	Windsong
Windsong's Sonnet	Phal. Zuma Poem x Phal. <i>equestris</i>	Windsong
Windsor Royal Wedding	Phal. Scott Eugene x Phal. Windsor Fallout	A.Klehm
Winter Dream	Phal. Gypsy Belle x Phal. Mount Kaala	Hausermann
Wessner Joker	Phal. <i>amabilis</i> x Phal. Marcia Haydée	F.Glanz
Yellow Orient	Phal. Donald Rigg x Phal. Hausermann's Heiress	Hausermann
<b>PHRAGMIPEDIUM</b>		
Beaumont	Phrag. Memoria Dick Clements x Phrag. <i>caudatum</i>	E.Young O.F.
Brecko Nitament	Phrag. Nitidissimum x Phrag. Memoria Dick Clements	Breckinridge
Scarlet O'Hara	Phrag. <i>besseae</i> x Phrag. Jason Fischer	H.P.Norton
<b>POTINARA</b>		
Ashley Palmer	Pot. Free Spirit x Blc. Orange Butter	R.H.Palmer
Cosmo-Campobea	Sic. Jungle Beau x Blc. Campobello	Kokusai
Hawaiian Prominence	Pot. Hisako Akatsuka x Sic. Wendy's Redstone	Kodama(Carmela)
Hawaiian Rapture	Lc. Mini Purple x Pot. Hisako Akatsuka	Kodama(Carmela)
Lisa Taylor Gallis	Blc. California Girl x Sc. Beaufort	H.Gallis(R. Takafuji)
Miva Vega	C. <i>bowringiana</i> x Pot. Orglade's Tradition	Michel Vacherot
Squires Orange Marmalade	Blc. Fuchs Orange Nuggett x Pot. Free Spirit	C.Squires
<b>RHYNCHOVANDA</b>		
Mary Ellen	V. <i>lamellata</i> x Rhyn. <i>coelestis</i>	G.Kelly(O/U)
<b>*SAKABAA4RA (Skba.)</b>		
Joanle	Iwan. Appleblossom x Ctna. Why Not	Puanani
Lavender Blossom	Iwan. Appleblossom x Ctna. Maui Maid	F.Clarke
<b>SANJUMEARA</b>		
Crownfox Delight	Prra. Luke Thai x Vt. Virgil	R.F.Orchids
<b>SARCOCHILLUS</b>		
Starhart	Sarco. Star Struck x Sarco. <i>hartmannii</i>	N.Roper
<b>SCHOMBOLAEIA</b>		
Enzomondo Red Star	L. <i>harpophylla</i> x Schom. <i>undulata</i>	Erzomondo
<b>*SENGHASARA (Sngs.)</b>		
Doktor Karlheinz Senghas	Adgm. Mandarin x Gom. <i>crispa</i>	A.Schilliger

NAME	PARENTAGE	REGISTERED BY
<b>SOPHROCATTLEYA</b>		
Mishima Potpourri	C. Porcia x Soph. <i>cernua</i>	Hanajima's
<b>SOPHROLAELIOCATTLEYA</b>		
Purzac	Lc. Mini Purple x Sic. Anzac	H.Nagao
<b>STANHOPEA</b>		
Sarudon	Stan. <i>saccata</i> x Stan. <i>ruckeri</i> †	M.& M.F.Bourdon
<b>VANDA</b>		
Black Widow	V. John Hinton x V. Black Magic	M.Edgerton(Kultana)
Ciel de Dordogne	V. Valse Bleue x V. Thailand Beauty	M.& M.F.Bourdon
Daniel Lee Leatherman	V. Keoni Noa x V. Eisensander	D.Leatherman(H.Lui)
Dream City	V. Reverend Masao Yamada x V. Madame Rattana	Exotic Orchids (R.T.Fukumura)
Lowell Lui	V. Diane Ogawa x V. Richella Blue	D.Leatherman(H.Lui)
Vivian Stewart	V. David Lee Leatherman x V. Keoni Noa	D.Leatherman(H.Lui)
Volcano Delight	V. Robert's Delight x V. <i>coerulea</i>	Akatsuka Orch.Gdns.
<b>VUULSTEKEARA</b>		
Nichirei Menda	Odmn. Mena x Oda. Matanda	Nichirei Corp.(M.Tibbs)
<b>WILSONARA</b>		
Jane Stevens	Odcdm. Orange Glow x Oda. Saint Helier	R.Stevens(George Black)
Lynette Stone	Odcdm. Tiger Hambühren x Oda. Memoria Ernesto Alvarez	R.Stone
Mont Rossignol	Wils. Bonne Nuit x Odm. Augres	E.Young O.F.
Nichirei Gold	Wils. Sussex Gold x Oda. Durham City	Nichirei Corp.(M.Tibbs)
Nichirei Tiger	Wils. Durham Sunset x Oda. Durham City	Nichirei Corp.(M.Tibbs)
Purbeck Stern	Odcdm. Purbeck Gold x Wils. Hambühren Stern	R.Stevens(O/U)
Volcano Space	Wils. Flaming Space x Oda. Wellmar	Akatsuka Orch.Gdns.
<b>YAMADARA</b>		
Redland Sunset	Blc. Orange Nuggett x Epi. <i>cordigerum</i>	R.F.Orchids(Puanani)

\* New intergeneric name with abbreviation for the following combination. The botanical authority follows each component genus.  
Sakabaara (named in honour of Joan Sakaba of Hawaii, USA)= *Brassavola* R.Brown x *Broughtonia* R.Brown x *Cattleya* Lindley x *Diarridium* Bentham x *Laelia* Lindley  
Senghasara (named in honour of Doktor Karlheinz Senghas, former Academic Director and Head of Research at Heidelberg University Botanical Gardens)= *Ada* Lindley x *Gomesa* R.Brown x *Odontoglossum* Kunth

† Species appearing for the first time as parents in registration:-  
*Aerangis distincta*; *Conyranthes masteriana*; *Cycnoches thurstoniorum*; *Dendrobium amethystoglossum*; *Dendrobium guerreroi*; *Masdevallia marthae*; *Masdevallia mystica*; *Oncidium microphyllum*; *Stanhopea ruckeri*  
CORRIGENDUM - Orchid Review list of:  
January/February 2000, Den. Uringa Belle should read Uringa Belle



#### NEW COMBINATION:-

To facilitate the publication of a new grex in *Miltonia* in the above list of New Orchid Hybrids it is necessary to formally transfer a recently described new species of *Miltoniopsis* into *Miltonia*.

*Miltonia bismarckii* (Dodson et D.E.Benn.) P F Hunt, comb. nov

Basionym: *Miltoniopsis bismarckii* Dodson et D.E.Benn., in Ic. Pl. Trop. ser.2.2; t.110 (1989)

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**Orchids 99**

by the Orchid Council of New Zealand  
106 pp. 208mm x 146mm Softcover.  
Published by the Orchid Council of  
New Zealand, P.O. Box 116, Mosgiel,  
N.Z.  
ISSN 1174-4049 NZD \$10.00

Orchids 99 is the annual yearbook, for the Orchid Council of New Zealand, this obviously being the 1999 edition. This book features cultivation notes, society news, major N.Z. social events, even hints towards a better show schedule. All of these are presented in a very easy to read style.

Judges would find this a most useful guide, as it has descriptions of all the orchids awarded in New Zealand in 1998. These are from the three main awarding bodies, being the Orchid Council of New Zealand (OCNZ), New Zealand Orchid Society (NZOS) and the New Zealand branch of the Cymbidium Society of America (CSA).

The OCNZ awards are the most predominant, with 45 different orchids (covering various genera) featured in the colour photographs. The standard of the photography is most impressive and certainly of a higher standard than we sadly see from some parts of Australia! I certainly will annually look forward to the release of this yearbook.

**The Enchanted Orchid**

by Max Fulcher  
144 pp. 250mm x 210mm Softcover.  
Published by New Holland Publishers  
ISBN 1 86436 535 8 AUD \$30.00

Rarely do I get a book to review and then have trouble doing it. Well The Enchanted Orchid, by a Sydneysider named Max Fulcher has me stumped. I still don't know what the purpose of this book is or what its all about! Personally, I've never heard of Max Fulcher (and I'm sure he wouldn't know me from a bar of soap either) but apparently he is a bit of an advertising guru and has certainly used his marketing prowess well, with rave reviews in local newspapers and even *Your Garden* magazine. There is even a quote from fashion designer and socialite Maggie Tabberer – 'One of the most beautiful books I've ever seen.' Words fail me with that comment.

There are some colourful stories about the author and his worldwide quest to satisfy his love for exotic orchids. Some of these are quite humorous and the author comes across as a nice bloke with a witty sense of humour. At best, the book is a light-hearted look at orchids. Most of the photographs are sadly out of focus and/or over or under exposed. Maybe they were supposed to be like that – after all, there is

even a section devoted to photography! Unfortunately, I feel there is really not a lot here to interest orchid growers. Look before you buy.

**Vandae Tribe**

by Roslyn Xerri  
48 pp. 210mm x 146mm Softcover.  
Published by the Queensland Orchid Society  
Society  
(No ISBN number) AUD \$4.50

Ros Xerri of Brighton Orchid Nursery in Queensland has written this 48-page booklet, which includes a special section on *Phalaenopsis* culture by respected grower and hybridiser, Stuart Heyden. It is part of a series of similar publications produced by the Queensland Orchid Society.

This booklet covers a number of the popular *Vandaceous* and *Angraecoid* orchids, easily identified by their monopodial growth. There are brief descriptions and cultivation tips for the more common species from a number of genera including *Aerides*, *Ascocentrum*, *Doritis*, *Euanthe*, *Renanthera*, *Rhynchostylis*, *Vanda*, *Vandopsis*, *Aerangis*, *Aeranthes* and *Angraecum*.

There are also notes on hybridisation plus a list of some of the more frequently encountered Intergenerics seen in cultivation. Much of the book is devoted to culture, and many aspects are covered here – as well as pests and diseases. This book is a great introduction for anyone starting out to grow these tropical orchids and at only \$4.50, worth every cent.

**Orchid Fever**

by Eric Hansen  
274 pp. 216mm x 146mm Hardcover.  
Published by Random House, USA  
www.randomhouse.com  
ISBN 0 679 45141 2 AUD \$35.00

This controversial book has certainly attracted its fair share of publicity and notoriety. It has been mentioned a couple of times in the *AOR* already. It is a story about orchid smuggling, CITES, armed raids on orchid collections and some of the personalities of the international orchid community. *Orchid Fever* swept up a wave of curiosity when it was released in conjunction with the San Francisco orchid exposition in February 2000. Stories from the book spread like wildfire on the Internet, the American 60 Minutes program did a segment on it and there is now even talk of a movie!

Eric Hansen is not an orchid grower, but spent seven years in researching this book. He claims that he has documentary proof for all of the claims in the book, which sent a few shock waves through the orchid world on its release. He has an entertaining

style of writing, which is funny in parts and generally difficult to put down. He does have a dislike for authority though.

Slipper orchids species, from the genus *Paphiopedilum*, feature predominantly in the text and there are many, at times unbelievable, stories on established and often well known nurseries. One example was the respected Orchid Zone in California. Its owner, Terry Root, was targeted by the 'plant police' because they found out he had half a dozen plants of the rare and bizarre *Paphiopedilum sanderianum* from Borneo. I have been to the Orchid Zone, and they have produced hundreds – no thousands of rare slipper orchids from seed to satisfy the local and overseas market for these plants. They have produced outstanding clones, in large numbers, of rarities such as *P. rothschildianum*, *P. druryi*, and *P. wilhelminiae*, (plus albino forms of the species) and their work with *Phragmipedium besseae* is acknowledged worldwide. Anyhow, the full details of this appear in the book.

For the record, I thoroughly enjoyed reading it, even though I feel some of the facts may have been exaggerated in some instances. It has been seen on bookshelves in Australia, in the 'True crimes' section! Perhaps it is best to read the book yourself and draw your own conclusions.

**Journal of the Orchid Species Society of Victoria. Volume 18, 2000.**

Edited by Brian Milligan  
52 pp. 290mm x 210mm Softcover.  
Available from Secretary OSSV, 9  
Ferdinand Ave., North Balwyn Vic  
3104  
AUD \$10.00 plus \$1.60 postage

This is another informative volume from the members of the Orchid Species Society of Victoria, edited by Brian Milligan. The emphasis is on culture, and over twenty taxa are discussed by a number of well-known local enthusiasts who have experience with these plants. There are 15 colour photographs and a number of line drawings and maps in this 52-page edition.

The OSSV present Cultural Certificates to reward fine flowering and culture. There is a complete list of the 250 recipients from 1984-1999, showing name of plant, owner and the date awarded. There is also 15 pages devoted to a listing of the different orchid species benched at meetings between 1986-1999, with their month of flowering, country of origin and temperature requirements.

The Orchid Species Society of Victoria is to be congratulated for this initiative. This booklet will be welcomed by species orchid growers and those who wish to check the spellings on their labels!



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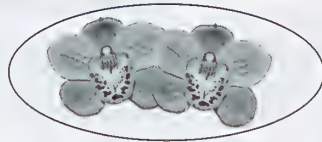
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## Cattleyas

Now is the time to get your catts ready for the spring-summer period. Check plants to see if they need potting on or dividing. Give more light. Turn heat off in the glass house if heated. Start to clean the roof of your glass house. Move some plants to shade house for the summer period.

Increase watering. Fertilise on alternate weeks with GARDEN PARTY® and HS022 plus a little CROPMAX®.

If plants are in sheaf keep plants in a protected area, in case we get a cool change in the weather. Watch for bulb rot. You could give plants a soaking with FONGARID® or one of the phos. acid preparations that are now available. Read directions as some of these products need a wetting agent or spreader. DO NOT MIX WITH AN OIL, OR YOUR PLANTS WILL BURN, such as SPRAYTECH OIL®, CODACIDE OIL®, SYNATROL®, ECO OIL® or PEST OIL®. Check for aphids as they are troublesome this time of the year. Use CONFIDOR® to control them. Scale insects will also become active. Use ANTISCALE®.

Have you tried a few mini catts yet? These are all the rage as they are compact growing and have small to mid-size blooms in all colours of the rainbow. Choose seedlings that have one of the following as a parent. Slc. Precious Stones 'True Beauty', Lc. Mini Purple 'Tamami' Slc. Tiny Titan, Sc. Beaufort 4n, Sl. Orpetii 4n. The above is a short list of parents that are producing some very interesting flowers. Why not try a few. Most will grow cool and many will flower more than once per year. Problems are few, but watch for scale insects.

## Cymbidiums

There is no doubt that cymbidium seedlings are producing better blooms than ever before. This past season certainly showed us quality that we only dreamed of. Some of the seedlings I recently saw at Bryants Orchids were the best I have seen for some years. The moral of this is, buy a few seedlings to replace those also rans!

Now is the time to think about repotting those overgrown plants. Have you got your compost ready. If not – get to it! Every year I get enquiries regarding mixes. The list goes on and on regarding these mixes. If you have only a few plants to repot it would be more practical to go to your orchid nursery and purchase a few bags from them. In Sydney, Orchid Care Services have a very good cymbidium mix. Years ago most growers used a peat based mix but as time moved on, peat was dropped and pine bark came in.

A simple mix is as follows: to each cubic metre of medium pine bark you could add the following:-

5kg dolomite  
1kg superfine superphosphate  
1kg C-A-N

0.75kg potassium nitrate (granular)  
1kg micro max (granular trace elements)

Mix well and dampen down. Turn every ten days until heat is removed.

Once cooled you can add a little, perlite, rice hulls and a little peat moss. Styrene foam can be used instead of the perlite.

Do not let the plant racemes stay on the plant too long. The sooner they come off the better for

the plant. Before repotting, let the plant dry out as this will make it easier for ones self to divide the plant.

When repotting many growers add their favourite fertiliser to the pot just before the final handful of compost is added to the pot. Some use a 3-4 or 5-6 month controlled release fertiliser or a handful of ORGANIC LIFE® pellets plus the handful of ZEOLITES. As I said the combination is never ending!

Don't forget to sterilise your cutting tools before dividing each plant. Seal all cuts with STERIPRUNE®. After the plant has been repotted you can give the pot a good soaking with AUXINONE® and if possible an application of TRI-D25® to help keep root rotting fungi away. Do not over water after repotting if the weather is hot. An application of ENVY® will help slow down transportation.

During this pre summer period watering and fertilising is important. Keep compost just moist. Fertilise weekly with your favourite brew. There are many fertilisers available these days especially suited for orchids. ALLANS MERRIFERT is ideal for your orchids.

Now is the ideal time to "pot on" your seedlings. GARDEN PARTY® is an ideal fertiliser to use on your seedlings

## Natives

The Sarcanthinae are the most common native orchids blooming during these two months. Their distinctive flowers are a change

after the dendrobiums. Others such as Cymbidium, Calanthe and Phaius will also be starting to bloom. Many terrestrial orchids are to be seen at this time as well.

This is also the time of year when new growth really gets a move on. When the flowers have faded the new growth will get moving. Many of my plants which did not flower well this year had growth underway by the end of August. New growth needs feed on a regular basis so it can reach it full potential. Too much fertiliser with high nitrogen (N) content can produce soft, lush growth. This is an invitation to munching pests and can turn slimy with rot. Use of fertiliser with a lower N ration than that meant to feed indoor foliage plants.

Make sure your plants get as much light as they can tolerate. This will vary with the parentage of the plant and its maturity. *Sarcophilus fitzgeraldii*, for instance, needs damp shady conditions whereas *Dendrobium kingianum* needs plenty of light. Plenty of light does not mean subjecting the plant to burning midday sun. The leaves will develop a purple colour and then scorch marks. Shade cloth is perfect for protecting native orchids, but you may need to create micro-climates in the shadehouse to suit all of your collection.

This summer could be very hot. We (on the New South Wales coast) have had two relatively mild and wet summers. A hot one is overdue so a few precautions are in order. Maintenance of the ambience associated with good levels of humidity which create good growing conditions is

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essential. Hot, dry winds can do a lot of damage so use other plants to protect your orchids.

Make sure that your misting system is working. Check for blocked misters and clean or change them and flush the pipes. Make sure all plants are getting their share of the water.

With new growth comes the time to repot. Of course it can be left until later but repotting before the new roots emerge is best so the plants can establish in the new media with its fresh supply of food. The plant will have plenty of time to establish, particularly if you have to remove a lot of spent growths.

If the growth has outgrown its pot and there is no room for the new growth it may only need to be potted on. There should not be many dead growths and the root system must be healthy and strong. Potting on is done without too much disturbance to the roots as the old media is retained. Just gently tease out any outside roots that are running around the pot and place the plant in the new pot and top up with fresh media. Seedlings often only need potting on as they quickly outgrow small pots. Don't overpot. Native orchids like to be potbound. Leave just enough room for a couple of seasons growths. Repotting is more drastic and involves removal of most of the old media and some of the roots. If the plant has been in the pot for a few years and the media is breaking down into mush it must be repotted. An unthrifty plant will often need a fresh start after its roots and media have been checked for possible causes. Insects, worms or ants in the pot mean that the media must be removed. The extent to which you prune the plant will depend on its condition. Some dendrobiums will lose a number of growth and their associated roots each year. All of this must be cut away. The plant may need to be broken into pieces – but never any less than three pseudobulbs – to get it cleaned up properly (Note that many dendrobiums will continue to flower from leafless pseudobulbs, so be sure that they are really dead and papery). use a hose to wash away dirt and pests. Loosen up the roots and carefully replant in the new pot with new media. This is why it is best to repot before the new roots appear.

Reusing pots can be risky due to virus and other infection, but replacing them can be expensive and a polluting waste of plastic if they are not damaged. All pots should be cleaned before reuse. Soak them to make it easier to remove all traces of dirt and rinse with a solution of bleach or disinfectant known to be effective against virus. After rinsing you should have "new" pots again.

Disinfecting also applies to any tools you use and your hands! They should be washed between every plant. Use gloves and rinse them. They will also prevent the skin on your hands, particularly your thumbs, being dried out by the bark in the media.

In the hothouse it is time to make sure that summer shading is in place. If you give your plants a summer vacation outdoors it is time to move them if you live in a warmer area but not where late frosts are possible. Water well to make sure all plants are over the "dry" season. Use a wetting agent if necessary although it's not good to let the plants get that dry in the first place. Check for any mite damage such as tiny reddish or pale spots on the leaves. Remove any scale and mealy bugs which love dry conditions and materialise from nowhere over winter.

As this is the time of good growth it is also a good time to deflask seedlings if they ready. This means that they have strong growths and roots and look ready. Fungal growth means an emergency deflask. It can happen due to the disturbance of the flask after purchase and the seedlings will probably be lost if it is left alone. These seedlings will need very special care if they are small but be sure they are not to immature to be removed.

To deflask, gently remove the seedlings and rinse all traces of agar off the roots with lots of lukewarm water. The seedlings can be either separated and potted individually or left in a group and community potted. Individual potting means disturbance is not needed later but the pots take up a lot of room and need a lot of care unless the plants are particularly big. In community pots the weakest might not survive, but then they would probably not be robust plants anyway. Seedlings can be left in the community pot until they flower when the best are carefully disentangled and keep. No matter what you choose, the seedlings will need to be carefully looked after for a few weeks. Don't deflask then go on holidays! Firstly the babies need to have high humidity levels as those soft leaves will dry out. Use mini-greenhouses, plastic bags or whatever. Mist gently by hand as often as needed or possible. A container of water with the plants will help maintain humidity. Fungal growth can be a problem in the wet, warm environment and fungicide may be needed. Gradually open the cover day by day and let the plants adapt to the outside environment. Add some very dilute fertiliser to the misting water. Keep the seedlings in a cool shady place until they have begun to produce new growth. Be very cautious about introducing them to the growing environment of mature plants.

## *Paphiopedilum*

A little care is necessary during spring as the weather can be quite variable. We generally have nice warm days and cool nights – ideal conditions for paphs. to begin their main growth cycle.

Repotting was covered fairly comprehensively in the notes for July/August, however a few points are worthy of repetition:

*Paphiopedilums* thrive on repotting. It should be done every year for best results, no matter how happy the plant appears or how good the mixture looks. You can only see the top of it.

Don't overpot. Use pot which will comfortably hold the roots. 'Squat' pots (height about equal to diameter) are best and drainage must be adequate. The base of the plant should be just below the surface of the mixture.

'Wobbly' plants should be staked.

Don't use osmocote. It is just great for most orchids by paphs. will not grow a good root system when it is used.

Repotting can be continued throughout this period – in fact, right up until about mid december, or later if you have effective cooling.

Watering should be done as required. If the weather is hot and dry you may need to water every couple of days; if cool and cloudy, once a week may suffice. It is particularly important to water in the morning if you possibly can. The object is to keep the soil temperature up; you can't achieve this if you water late in the day.

Fertiliser should be given regularly, particu-

larly toward the end of this period. It is not too much to water with about half strength fertiliser every second or third watering. I find it very convenient to use a 'Hyponex siphon mixer', which plugs in at the tap end of the hose and sucks the concentrated fertiliser out of a 20 litre bucket. These are cheap and foolproof but they won't work against a lot of back pressure; I use a 'Gardenia' water breaker, screwed well out, on the end of a 20 metre hose and have no trouble.

I have always used Aquasol, supplemented with extra iron, a bit of magnesium now and then and Nitrosol which, apart from its value as a fertilizer, I believe acts as a wetting agent. Whilst I never really measure anything, the proportions are probably about: 2 teaspoons of Aquasol, 1 teaspoon of Nitrosol, a pinch of Iron Chelate and a few pinches of Epsom Salts all dissolved in about 20 litres of water. This is pretty weak, but I use it frequently.

About the only pests which trouble paphs. are scale and mealy bug. These become active around early November and it is not a bad idea to spray the collection during this month as a preventive measure. Malascale will clean these up fairly effectively. If you feel really heroic, Supracide is very effective. Whatever you use, take the appropriate precautions otherwise you may clean up the family dog, or even yourself.

## *Phalaenopsis*

**Watering:** – Water in the mornings every second day. If weather really starts to warm up then water daily. Damp floor down every day.

**Light:** – Shade should be increased to 90% until after the end of summer.

**Fertiliser:** – Fertilise weekly alternating between

- High nitrogen (Campbells B, Aqua-feed, Aquasol, etc.).
- Foliar/Trace Elements (Wuxall).
- Organic (Fish Emulsion or Nitrosol).
- Phostrogen.

**Pest Control:** – Fungicide every six weeks with Ridomil MZ WP, Wettable Sulphur, Daconil or Mancozeb with Kocide).

Use an insecticide such as Diazanone, Malathion or Pyrethrum every four weeks to control insects and scale.

Keep a particular watch for mites and use a miticide as necessary.

Good air circulation is essential to prevent fungal rots.

## *Vandaceous*

**Watering:** – Water daily. Keep the root system moist with additional misting if necessary.

**Light:** – Strap leaf vandas and ascocendas need 50 to 70% shade. Terete and semi-terete about 30%.

**Fertiliser:** – Fertilise weekly alternating over a four weekly period.

*Wk.1.* – Inorganic high nitrogen (Campbells B, Aqua feed or Aquasol).

*Wk.2.* – Foliar/Trace element (Wuxall Foliar).

*Wk.3.* – As for Wk.1.

*Wk.4.* – Organic (Fish Emulsion or Nitrosol).

**Pest Control:** – Fungicide every six weeks with Ridomil MZ WP, Daconil, Mancozeb or Wettable Sulphur).

Use Diazanone, Malathion or Pyrethrum to control insect pests.



# Phalaenopsis Culture

By Ray Clement

**P**halaenopsis are a group of monopodial orchids that grow in shady, humid conditions throughout the Southeast Asia, with *P. rosenstromii* extending into north Queensland. They are arguably the most fashionable genus of orchids grown in the world today, being particularly popular throughout the United States and Europe where they are regarded as one of the easiest orchids to grow and bloom indoors.

## Temperature and Humidity

*Phalaenopsis* enjoy relatively stable temperatures. A minimum temperature of 15°C and a maximum of 30°C is optimal, however plants will tolerate fluctuations of up to 5°C degrees for short periods. Growing these plants outdoors in temperate climates will require some artificial heating in the winter and possibly cooling in the summer. However their requirements fall almost perfectly within the comfort zone we enjoy inside the house. *Phalaenopsis* also require medium to high humidity. This can be achieved by placing the plants in a saucer of gravel (the larger surface area the better), wet the gravel but be sure the base of the pot is above the water level. As the water evaporates, adequate humidity will be provided. It also helps to mist the plants daily, so keep an atomizer handy.

## Light

*Phalaenopsis* enjoy low light and thereby must be protected from direct, unfiltered sunlight. When grown outdoors, they need sufficient shade so that on a sunny day a barely discernable shadow is cast. Indoors a brightly lit room out of direct sun is suitable.

## Watering and Fertilising

One of the secrets of growing *Phalaenopsis* is to keep the roots just damp but the leaves as dry as possible. This means that the compost should be allowed to nearly dry out before watering. After watering, dry the leaves off as quickly as possible, especially any water lying in the crown of the plant where the new leaves emerge! To help this avoid watering the leaves, or place the plants in a breezy spot for an hour or two after watering, even removing excess water from the leaves (by tilting the plant) or a tissue will serve the purpose. Fertilise with a recommended soluble orchid fertiliser at quarter strength every watering or at half strength every second watering. HSO 12 is ideal for year round use.

## Potting

Keep plants in as small a pot as possible,



Group of *Phalaenopsis* grown by Stuart Heyden, Queensland. (photo D.P. Banks)

a few roots growing out of the pot will not harm the plant and is not necessarily a reason to pot up the plant. We use a treated pine bark medium, coconut chips, or a mixture of both.

## Pests and Diseases

Apart from crown rot, which can be avoided by careful watering, *Phalaenopsis* can suffer attack from Mealy Bugs. These appear as small furry white pests, usually under the leaves, or in the axils. They can be controlled with Pyrethrum or a chemical insecticide such as Diazinon, or wet them with equal parts of Metholated spirits and water using a cotton bud or small cloth.

*Phalaenopsis* are very rewarding plants to grow as the flowers last up to 12 weeks. When the blooms have withered, cut the flower stem off between the third and fourth notch from the plant. The old stem will then shoot and flower a second time. Mature plants will flower twice each year, so flowering can be achieved for up to half the year. Flowers are available in white, pink or yellow plus an array of novelties with various degrees of spotting and/or

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# Cymbidiums

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## Editor's Report

### Worth the wait

Having an editorial panel certainly makes life easier. Once again I thank Rob and Noe for supporting me in this position, their help and input has been tremendous. Before I begin to discuss my editorial subject for this issue let me first point out just one of the difficulties facing editors. As I write this report it is still the first week in July, when you read it we will be entering the first week of October. The difficulties of bringing you current happenings will continue due to deadlines that must be met, nevertheless, as editors we ask you to bear with us, for I can assure you we will make the wait worth your while.

### Seedlings

I have said much in the past about seedlings, indeed, I have always been a staunch advocate for the promotion of them. They are without doubt the future of cymbidiums and need to be treated accordingly. One major debate, regarding first flowering seedlings, needs to be addressed as soon as possible.

Most orchid shows have a section for – *Seedling flowering for the 1st time*. This issue can be viewed very differently. Some people will say, "It's only a seedling and if it's any good it will grow into a champion one day!" Other growers would argue that they like to show their new seedlings but are reluctant to do so when the plant is tiny and flowering for the first time with only three or four flowers. Both viewpoints are valid, yet the question I ask is, "What is right for the promotion of cymbidiums?" We must put

into place a system that encourages exhibitors to show their new seedlings, without being seen to penalise, or one that forces some to hold back their plants until they are mature and in doing so denies enthusiasts from seeing what new material is coming from breeding lines until much later.

Why not replace the First Flowering Seedling class with a section called New Hybrid shown for the 1st time? The other alternative would be to introduce two sections into show schedules (1) Seedling flowering for the 1st time; and (2) New Hybrid. The New Hybrid section may need some time limits placed on it? Surely then there could be no argument from the purists who advocate first flowering. While for those wanting to build up their plant for another year or so, they too, would not feel penalised. Whatever is decided, let's get it right for the sake of cymbidiums.

In this issue: Vic Pearce looks at the *Cymbidium* species; Rob and Noe Smith share with us the end results of a seedling cross they purchased and give hope for the future to others who are considering doing the same; Bill Johnson profiles another of cymbidiums "golden oldies", this time discussing the merits of *Cym. Fred Stewart*; I journeyed down to Strathalbyn to catch up with Tom Burian and bring you his life story in orchids; Carolin Allen gives us an update of the happenings in Victoria, while I have attempted to do the same from South Australia by bringing you a report on the CCSA Winter Show and Awards.

Good reading, growing and showing. ■

Dean Roesler  
Editor

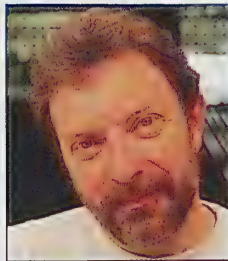
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# Species Cymbidiums

Text by Vic Pearce - Photography by Sean Moore

Orchids became a significant part of my life on retirement from work some eighteen years ago and species of all genera held the biggest attraction, including the species within the genus *Cymbidium*. Although hybrids of all genera form part of my orchid collection, the species are my greatest love. I have searched for and grown *Cymbidium* species since beginning to grow orchids and I hope that the following overview of the *Cymbidium* species, both their history and their culture, will be of help to others who also have a fascination for and love of these natural beauties.

## Distribution

It is generally recognised that close to fifty species make up the genus *Cymbidium*, with the most recent revision of these being by Cribb & Du Puy who list some forty-four known species, with Phillip Cribb noting an additional three

newly discovered and described species: *Cym. defoliatum* (closely allied to *Cym. faberi*); *Cym. nanulum* (close to *Cym. ensifolium*); and, *Cym. banaense* (close to, and possibly conspecific with, *Cym. eburneum*). The genus *Cymbidium* is distributed from north-western India, through China, Japan, the southern Malaysian archipelago and north and eastern Australia.

## History

Cultivation of cymbidiums began long before their importation into Britain and Europe with records placing the cultivation of cymbidiums in China at the time of Confucius some 2,500 years ago (about 500 BC). Orchid cultivation in Japan occurred much later, whilst it wasn't until the mid-nineteenth century that they became popular in the United Kingdom and Europe. As early as 1233 the Chinese had written a book on orchids and it

included descriptions of some twenty-two species, mainly cymbidiums. When Japan became interested in orchids it seems that a great deal of status was involved, with the Imperial family growing *Dendrobium monile*, the Samurai growing *Neofinetia falcata* and the remaining people of wealth growing cymbidiums.

The Japanese grew cymbidiums principally for their perfume (also including other types of scented plants) and those with variegated foliage were highly prized, as is still the case today. The perfumed *Cymbidium* species include *eburneum*, *mastersii*, *tracyanum*, *iridoides*, *sinense*, *kanran*, *faberi*, *madidum* and *suave*, with some having a noticeably stronger perfume than others.

As with many other wide-spread genera, there has been much confusion and a variety of names have been given to the same species, most especially the Taiwanese (formerly Formosan) plants.



*Cym. dayanum*



*Cym. devonianum*



From 1895 through to 1945 the Japanese occupied this island and the findings of the botanists seem not to have been researched before giving the newly-found plants new names. In accordance with later nationally agreed procedures, the first given name has been adopted. The use of various synonyms within the orchid trade can lead to some confusion and can become a trap for the unwary as even the more common and longer established species have synonyms in common use.

Little use has been found for cymbidiums other than in floral display, although the Australian aborigines are stated to have used the seeds of *Cym. madidum* as a contraceptive. I don't know how good it was, or how it was used but, perhaps, an interesting line of research awaits some enterprising botanist, hobbyist, or gynaecologist?

### The Family

Cymbidiums are divided into three subgenus: *Cymbidium*; *Cyperorchis*; and, *Jensoa*. Each of these, with minor exceptions, are spread over the eleven main growing regions. The greatest concentration of the species is in south-west China

(22), northern India (11), Indo-China (18), Malaysian islands (14), whilst Australia is left with only three, namely *canaliculatum*, *madidum* and *suave*, the latter being the most southerly-growing *Cymbidium* as, in nature, it can be found as far south as the Bega area in New South Wales.

In cultivation we divide cymbidiums into three groups: 1) The large-flowered Himalayan, Indo-Chinese and south-west Chinese species including *tracyanum*, *iridioides*, *erythraeum*, *hookerianum* and *lowianum*, together with *eburneum*, *mastersii*, *erythrostylum* and *tigrinum* which do better with slightly warmer conditions; 2) The small-flowered tropical and sub-tropical species which occur mainly at low altitude and, as such, require more warmth than usual, with the Australian species requiring high light and very little water in winter. This group includes *aloifolium*, *bicolor*, *rectum*, *finlaysonianum*, *atropurpureum*, *canaliculatum*, *madidum*, *suave* and *suavissimum*; and, 3) The small-flowered Chinese, Japanese and Himalayan group which include *floribundum*, *devonianum*, *ensifolium* and *macrorrhizon*, the latter being a saprophyte growing underground without leaves with the only visi-

ble part of the plant being the scape which bears 3-8 flowers. The majority of this group are spread from Japan through to southern China to the Himalayas of Nepal and northern India, from sea level in the temperate areas of Japan up to 2,000-3,000 metres above sea level in southern China and India. *Cym. ensifolium* and *Cym. lancifolium* also occur in the tropics.

### Hybridising

When hybridising got underway in the latter half of the nineteenth century initially much use was made of the large-flowered Himalayan species and this continued on through the twentieth century although, in the last twenty to thirty years, there has been much usage of the miniature/smaller-flowered types, mainly *devonianum*, *floribundum*, *tigrinum* and *ensifolium* by such people as Keith Andrews, Andy Easton and Ernest Hetherington. In recent years, several reports and articles dealing with the hybridising work undertaken by Dr Miles Seton have been published. Dr Seton, of course, being well known for his work with the Australian native species *Cym. suave*.

The major influences in hybridising of



*Cym. elegans*



*Cym. erythraeum*





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## CYMBIDIUMS AUSTRALIA



*Cym. erythrostylum 'Magnificum'*



*Cym. lowianum var. i'ansonii*



*Cym. mastersii*



standard-sized cymbidiums have been *eburneum*, *hookerianum*, *insigne*, *lowianum*, *sanderiae*, *erythrostylum* and *tracyanum*, with some minor influences coming from *aloifolium*, *atropurpureum*, *dayanum*, *suavissimum*, *madidum*, *devonianum* and *ensifolium*. Perhaps one of the greatest contributors to early hybridising was the tetraploid *Cym. Alexanderi* 'Westonbirt', the crossing of *Eburneo-Lowianum* 'Concolor' with *insigne* 'Sanderiae'.

*Cym. erythrostylum* has been remarkable in the breeding of early whites and pinks and probably the best of its progeny, so far as breeding is concerned, would be *Cym. Early Bird* 'Pacific' which is *Cym. (Edward Marshall x erythrostylum)*.

I won't dwell on the breeding aspect except suffice it to say that Cribb points out in his monograph on cymbidiums that, "Of the forty-four species, not more than seven or eight have been responsible for 90% of today's hybrids".

A brief overview of the species, their distribution and preferred climate shows why so many of them can be successfully cultivated in temperate areas and, why the majority of their hybrids are also successful when cultivated within the same range of conditions:

*Cym. erythrostylum* — Vietnam —

5,000 ft — Cool;

*Cym. hookerianum* — Himalayan Region — 4,900-8,500 ft — Cool;

*Cym. lowianum* — Burma, SW China, Thailand — 3,900-7,800 ft — Cool;

*Cym. iridioides* — Nepal, Burma, SW China — 5,900-7,200 ft — Cool;

*Cym. insigne* — Vietnam, China — 4,600-4,900 ft — Cool;

*Cym. tracyanum* — Burma, SW China, Thailand — 3,900-6,200 ft — Cool;

*Cym. tigrinum* — Burma, NE India — 5,000-8,800 ft — Cool;

*Cym. devonianum* — Nepal, NE India, Thailand — 4,700-7,200 ft — Cool;

*Cym. elegans* — Nepal, Sikkim, SW China — 4,900-8,200 ft — Cool;

*Cym. floribundum* — S China, Taiwan — 5,000-9,000 ft — Cool;

*Cym. chloranthum* — Sumatra, Java, Borneo — 800-3,280 ft — Some Heat;

*Cym. bicolor* (and relatives) — Sri Lanka, Malaysian Peninsula — Sea Level-5,000 ft — Heat.

Despite the now seemingly endless variety of size, shape, number and colour of flowers available among the many thousands of registered *Cymbidium* hybrids, it is interesting to note how few species provide the basis for this endless diversity. A look at two well known hybrids from the not too distant past, still commonly grown

and still successful as show orchids, illustrate this: The yellow standard *Cym. Jubilation* has the following species in its background, with the number of infusions listed as *insigne* (14), *hookerianum* (6), *lowianum* (12), *eburneum* (8), *parishii* (1) and, *tracyanum* (1); The pink standard *Cym. Narela* has many of the same species in its family tree, although in different proportions, namely *insigne* (18), *lowianum* (four as var. 'T'ansonii') (13), *eburneum* (9), *tracyanum* (2) and, *parishii* (1).

When it comes to culture for *Cymbidium* species, the majority only require the same conditions as those afforded the hybrids, with the exception of those identified as needing winter heat. All my species are grown under polycarbonate roofing covered with 50% shade cloth. All my plants are potted in 10mm bark and fertilised with a weak solution of soluble fertiliser via a mixer/proportioner linked to the watering system so that all plants are fed at each watering. A variety of different fertilisers are used to balance out the availability of trace elements, etcetera, with one brand making up for the deficiencies of another.

Vic Pearce  
2 Gowrie St  
South Oakleigh, Victoria 3167



*Cym. lowianum* var. *concolor*



# Tom Burian Orchids

Text by Dean Roesler - Photography by John Seidel

**N**estled among the almond trees, on the flat arid plains, just a few kilometres north-east of Strathalbyn in South Australia, is the nursery of Tom Burian Orchids. A rather modest person, Tom has been thrust into prominence since winning both Grand Champion and Reserve Champion at last year's National Cymbidium Orchid Show held in Adelaide. His story is an interesting one, which I would like to share with you.

Tom decided to set up his nursery in this area for a number of reasons. In the first instance land was relatively cheap, especially for the size of the blocks on offer. The climate was suited to *Cymbidium* culture with long hours of sunshine and an environment free from pollution. Added to the peaceful country style of living was the fact that it was within easy commuting distance, via the eastern freeway, to Tom's employment at a motor vehicle manufacturer in Adelaide.

Born and raised in the Adelaide suburb of Seacombe Gardens, Tom is part of a large family having five sisters and one brother. Always a keen horticulturalist his passion for orchids began at an early age. A nearby neighbour grew a few cymbidiums and our young aspiring gardener, fascinated by their flowers, became "hooked" for life on their beauty. Tom's first orchid was *Cym. Swallow 'Hebe'* bought from a nearby garden centre for the princely sum of \$9.00 back in the days when cymbidiums were first beginning to make their presence felt in the South Australian orchid world.

History points to the fact that most orchid enthusiasts develop their passion at a later age, probably when the pressures of work and raising a family are lessened, and the interested persons are looking for a relaxing pastime to take with them into retirement. In the case of Tom the complete opposite applied. At just fourteen

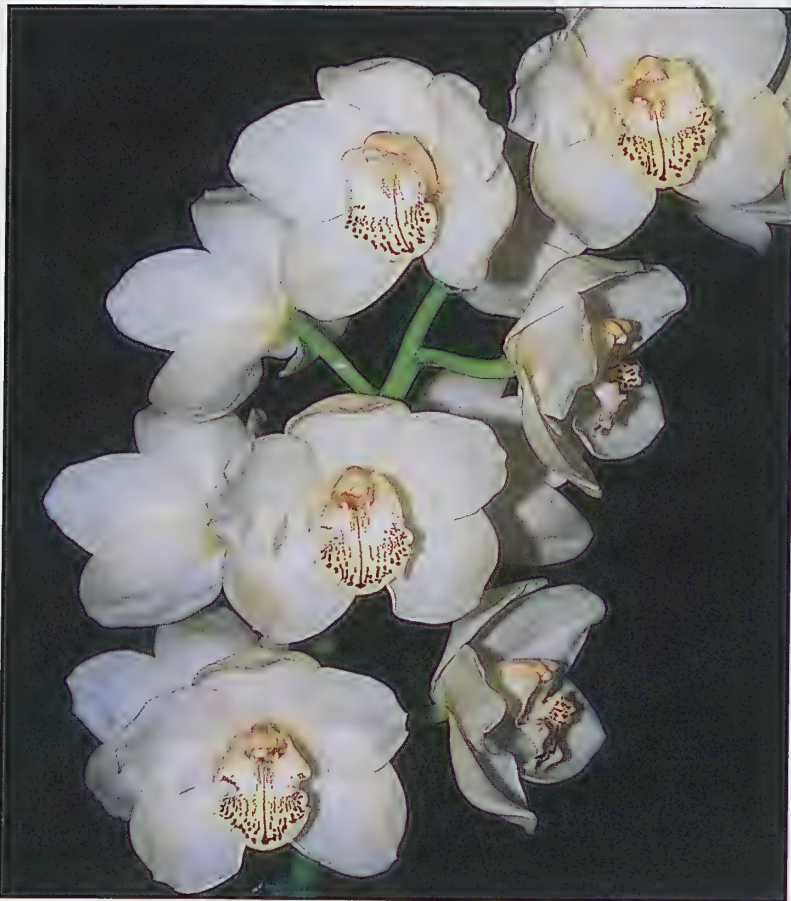
years of age Tom was soon to become totally immersed in his new found interest. In the mid-70's when only seventeen years old he spent five years working on weekends for Harry Lambert, well known proprietor of Lambert's Orchids.

Harry became Tom's mentor, encouraging and teaching him the many aspects of good orchid growing. He taught his young protege the many finer points of *Cymbidium* hybridising, and rewarded Tom with some outstanding stud plants which he still uses in his breeding program. Information gleaned from Harry has stood Tom in good stead in later years, particularly with regard to breeding. The results of his own work are becoming more and more prevalent on the show-bench, thanks no doubt to the sound advice Tom garnered from Harry in those early years. To this very day Tom holds Harry in very high regard and is grateful for all he did for him.

When the time came to move from the city, in 1984, Tom decided to start his nursery on a five acre block of land planted down with almond trees and situated approximately six kilometres from Strathalbyn on the Woodchester road. Cheap land and lots of room were the main attractions. There was, however, one downside to the area. In the initial stages of setting up his nursery Tom had to contend with extremely salty water. One disastrous year resulted in the loss of 6,500 young *Cymbidium* seedlings due to the water salinity. Along the way there have been other problems to encounter — a plague of rabbits as well as mice played havoc in those early years, as did two severe frosts. Needless to say all these have been overcome, the rabbits and mice have not returned and neither have the frosts, and today Tom can water his orchids with good quality mains water supplemented by rain water, stored in numerous large tanks and which Tom frequently uses to flush out the excess salts accumulated in the pots.

Most of the almond trees are gone now as they have been removed to make way for the shadehouse which covers an area of 12,000 square feet, a flowering-house of some 2,200 square feet and a hot-house which Tom uses for growing his cattleyas and other miscellaneous orchids in, this covers an area of 4,000 square feet.

Culture is kept very basic and simple. Plants of all sizes are grown in only pinebark. Tom uses 10mm bark which is treated and cured before use — his own

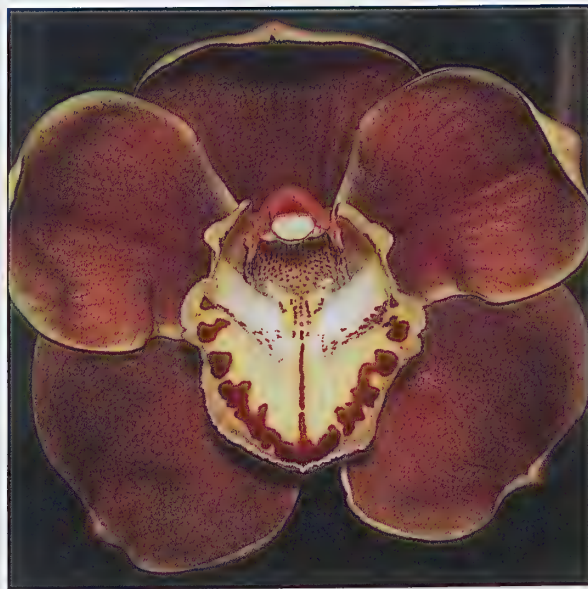


*Cym. Strath Wonder 'Cream Puff' HCC/AOC*





*Cym. Strath Beauty 'Julianne'*



*Cym. (Chocolada x Logfire) 'Superb'*

secret formula which has been devised over many years is used for this process. This smaller sized bark has been chosen because it helps maintain moisture for longer periods of time during the long, dry, hot summers which are experienced in the area. Fertilising consists of using such products as Nitrosol, Fish Emulsion, Epsom Salts and Phosphoric Acid. Tom believes that the single most important aspect in maintaining good plants is plenty of water during summer.

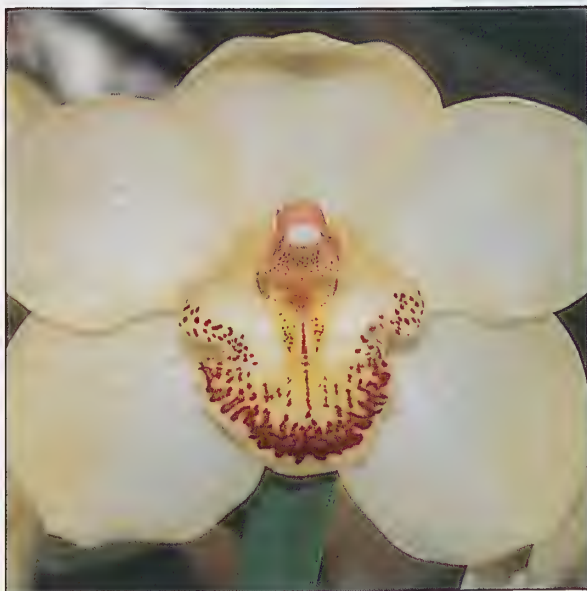
The importance of growing and flowering seedlings to produce future stock and showbench winners had been impressed

upon Tom in those earlier days spent working for Harry Lambert. Is it any wonder then that we find most of the plants he grows are seedlings? Furthermore, the majority of these plants are from his own hybridising program which we will now discuss!

Parent plants, goals and aspirations are all important issues in Tom's hybridising program. To set the direction in which one is heading and then follow it through to the end result should be the aim of every hybridist. I asked Tom, "What is your ultimate aim in the breeding of *Cymbidium* orchids?" To which he replied, "My aim is

to produce a standard *Cymbidium*, from my own hybridising, which will be awarded a First Class Certificate. I also want to produce better early flowering showbench varieties than are presently available."

To this point of time a number of key parent plants have featured in almost all of Tom's hybridising for standard cymbidiums, they are; *Cym. White Valley 'Becky'* — *Cym. Strath Wonder 'Powder Puff'* — *Cym. Laura Arda 'The Giant'* — three *Cym. Chocoladas*, 'The Giant', 'Superb' and 'Tom's Pride'. In his intermediate *Cymbidium* breeding program three par-



*Cym. Laura Arda 'The Giant'*



*Cym. (Strath Wonder x Chocolada) 'Eye Catcher'*





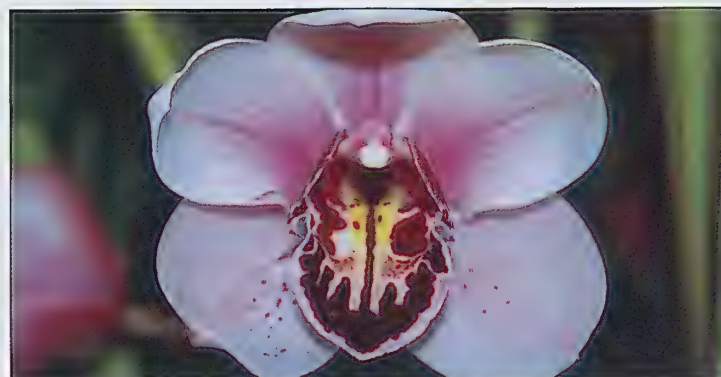
*Cym. Strath Surprise 'Wow'*



*Cym. Strath Beauty 'Superb Lips'*



*Cym. Chocarunta 'Pretty Lips'*



*Cym. (Enchanted Profile x Winter Fire) 'June Pink'*

ents have been used extensively, they are: *Cym. Winter Fire*, *Cym. Arunta* and *Cym. Choc*. As the progeny from these main stud plants are flowered they too are being assessed, tested, and added to the breeding bank.

For stud plants, the *Cym. Chocoladas* were chosen by Tom because of their free flowering properties, combined with their large flowers, good flower counts, strong upright spike habit and excellent flower arrangement (unaided) on the spike. Because of their parentage *Cym. (Zumma Boyd x Hamsey)* the *Cym. Chocoladas* have a wide range of colour genes to draw from when used for hybridising. *Cym. White Valley 'Becky'* an Award of Merit orchid was an obvious choice with its large clean white flowers and multiple-spiking properties, together with its ability to flower over an extended period of time,



*Cym. Chocarunta 'Two Tone'*

while *Cym. Strath Wonder 'Powder Puff'* already has many of the fine attributes he is breeding for. As you would have gathered by now Tom has a preference for showbench orchids and this is evident in his breeding program.

No longer able to take part in his favourite pastimes, martial arts and ten pin bowling, due to neck and back injuries sustained in a car accident a few years ago means Tom is constantly having to battle with pain, and orchids have become a way of relaxation and enjoyment for this young man, who at the relatively young age of forty two will have many years of hybridising ahead of him in which to achieve his dream of breeding an FCC *Cymbidium*. ■

**Dean Roesler**  
**Lot 14 Lawson Road**  
**Kalbeeba, SA 5118**



# Some Cultural Handy Hints

by Rob Smith

In general orchid growers are of necessity an innovative lot in their efforts to keep the cost of their obsession within the realms of acceptability – or at least to a level tolerable to the rest of a probably non-orchid growing household. Many growers will already know some of the following ideas, some of them came to my attention via orchid-growing friends in the first place. Perhaps sharing a few of the handy ideas we've picked up, or thought of, will lead to others writing in with ideas, or money and labour-saving hints of their own.

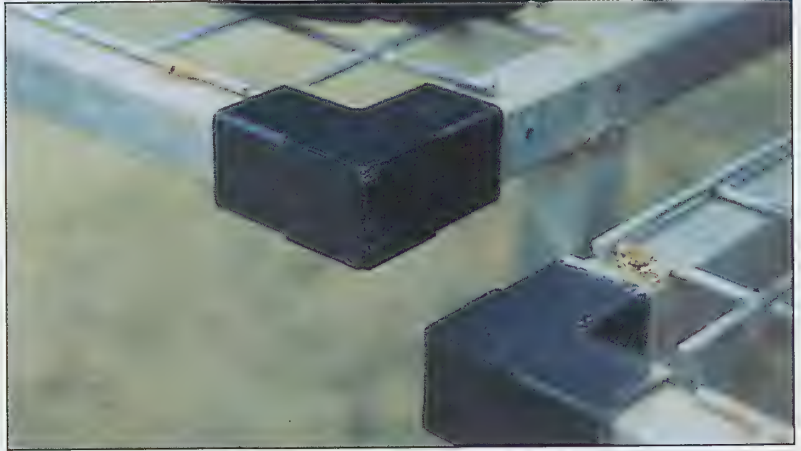
## Floors

Starting at the bottom with floors, for cost effectiveness, long life and the ability to provide humidity we've found crusher dust to be hard to beat. For anyone who doesn't know, crusher dust is the screenings from gravel making. Where we previously lived in South Australia this was the waste from blue metal production. Crusher dust has a particle size ranging from small chips of a few millimetres to fine sand size. Spread about 2-3" deep it will pack down to a near concrete type of surface underfoot, but still drain and allow evaporation, while under bench succulents or Baby's Tears will grow like gangbusters in it. The stuff is cheap, lasts forever, doesn't turn to mud or harbour creepy-crawlies. Its only disadvantage is that the bigger bits lodge in the work boot types of soles so popular in shoes these days.

Any crushed rock will do just as well, such as crushed limestone, which seems popular for driveways in Victoria. Without going into detail about capillary action etc., it's been proven that evaporation is more efficient from a substrate of small particles, as opposed to larger ones where the water drips through to the bottom and is protected against evaporation by the stones above it. Small particle sizes hold the water in suspension and allows evaporation.

## Benches

As far as benches go, nearly every *Cymbidium* enthusiast grows their plants on benches of some form or other and making them can be a time consuming and costly process. All of our benches are made from 25mm square galvanised tube, with galvanised weldmesh tops, for two good reasons. One is that they last for years without maintenance, and the other is cost, for while galvanised tube is around \$2.00 dearer a length than equivalent "blacks" or non-galvanised steel tube, it's actually cheaper when priming and paint-



Bench corners with angle joiners

ing are taken into account – not to mention the huge time-savings involved. I taught myself to weld making our first shade house frame and orchid benches, but if you are looking for an alternative to welding, then consider the black plastic joiners and angles available to fit 25mm square tube. In SA we used to get ours from *Tubemakers* for around \$1.50 each only having to cut the tube to size (or have your supplier do it for you) and assemble from the pieces. A self-drilling metal screw will hold each length in place and a bench can be put together in less than an hour. If you really don't want to (or can't) weld, the mesh can be fixed to the top with the same screws and special galvanised clips usually available from fence suppliers.

Another tip to reduce costs is to tailor bench sizes to the sizes the materials come

in if possible. For example, a full sheet of weldmesh is 8' x 10' (in the old scale). I hate waste so our benches are either 8' x 3'4", or 10' x 2'8", either way giving three bench tops per sheet with no waste. When making the frames I spend a little more and run a crosspiece between the bottom of each leg. This gives maximum strength to the bench and also gives a good solid base which keeps the benches stable, even when embedded into a shade house floor of stones, sand, sawdust, or whatever. A final tip is to use *Galmet* paint for any cut pipe or weldmesh ends which are exposed, and for all welds. It's a marvellous product which needs no priming – just slap it on and it will protect the steel for years ■

Rob Smith

24 William Hunter Court  
Rosebud, Victoria 3939



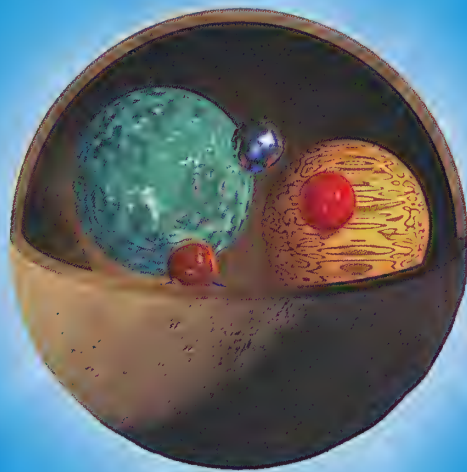
Bench feet with angle joiners



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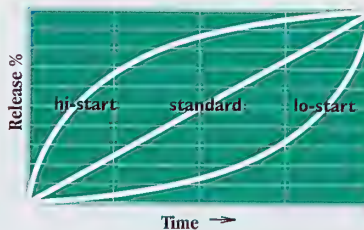
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# Cymbidium Orchid Society of Victoria

## June and July 2000 Meetings Report

Text by Carolin Allen – Photography by Ken West and Sean Moore

### June

Our regular club photographer Sean Moore, who's taking some time off to further his studies, has a volunteer replacement in Ken West who is doing a most excellent job of it. Thanks Ken.

We had many more members attend than first thought as the extremely cold and foggy conditions may well have been an encouragement to stay at home by heaters rather than brave the inclement weather. The general upside of fog is no frost, which is good news for *Cymbidium* growers at this time of year. Our first announcement of the evening was a rather long list of up and coming shows, indicating that most of us who participate as exhibitors and/or organisers are looking to be very busy during the next few months. There was an update on the whereabouts of our holidaying Secretary, in the form of a postcard mentioning somewhere near Darwin at the time of mailing. Among other interesting snippets of news, Kevin tells us he is paying \$1.13 per litre for petrol and is, therefore, driving slowly for a fuel cost saving of approximately \$15 per day.

John Hedger delivered his usual comprehensive report on the status of the seedling growing competition plants that had been brought in for inspection, with an emphasis on the results being obtained in a variety of potting mediums and pot sizes — one member's practical approach being the use of squat pots (as he had some spare ones, and they don't fall over). The cultural discussion led by Ern Kettle focused on the care of plants in general at this time of the year, and in particular, the best methods of assessing the probable spike habits of (and the training of) unflowered seedlings, prior to the forthcoming show season — an ever-popular topic.

Andy and Jan Leamon brought in a small collection of plants of some interest in that they displayed the parent plants of a cross, together with some of the progeny flowering for the first time. The cross (Emma's Love x Via Lunagrad), was made some years ago to produce attractive, floriferous, intermediate pinks on upright spikes for the pot plant trade. Members were invited to observe these plants closely and to give their opinions on the success of the results. While there



*Cym. cochleare* 'Paradisla' HCC-CBM/COSV, CEOC/COSV



*Cym.* (Emma's Love x Via Lunagrad)



*Cym.* Valerie Brown 'Pollyanna'



**Yowie Kingdom 'Yowie Bay'** (also formerly known as 'Pink Ice') contains an interesting genetic mix. It has Babylon, Hamsey, Marquesa Prescott and Rincon as grandparents.

Our first crosses from 'Yowie Bay' flowered this year off small plants. PR1278 (x Foxfire Rose 'Pink Glory') is producing very filled-in flowers in pastel to medium pink. The bulk of the cross is yet to flower.

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## CYMBIDIUMS AUSTRALIA

appeared to be no clear individual winner among the seedlings, in a vote for the best, the general consensus was that Jan and Andy had achieved their aim. Overall, this was an interesting exercise much enjoyed by all present.

Terry Poulton presented a series of slides depicting his recent visit to Ray Bilton's new nursery in England and had a grand time pulling our legs with beautiful shots of highly desirable various other genera he claimed were *Cymbidium* inter-generics, to counter for the fact that cymbidiums were out of season while he was there! The humour continued as he related the tale of the rat attack on his shade houses while he was away and of the widespread destruction throughout his collection (as they munched their way through his plants and spikes) discovered on his return. There's a rumour that his immediate neighbourhood have dubbed him "The Pied Piper of Scoresby"!

With a special thank you being extended to all those who regularly donate plants as prizes for our special effort draw each meeting (thereby assuring this fundraiser is well supported each month), it was amusing to note that all prize winners at our June meeting were committee members, occasioning several light-hearted comments on the chances of this result being coincidence.

Members were advised that the COSV now has its own Judging Hand Book & Award Judging Guidelines and that the COSV Judging Panel will be judging the cymbidiums at the OSCOV/Collector's Corner show in August, with a view to granting COSV awards.

There was a good selection of plants on the benches, including a very rare species, *Cym. cochleare* 'Paradisica', owned by Paradisia Nursery and which was awarded an HCC-CBM/COSV and a Certificate of Excellence for Outstanding Culture/COSV. This plant also won Best in Open Section, Best in Species Section and Judge's Vote. Ern indicated that it would be divided and mericlone shortly . . . and also confessed that when the plant first arrived at Collector's Corner he had asked for it to be cleaned up and to have all the "dead" spikes removed, only to be made aware that they were just emerging . . . congratulations to Paradisia on their twenty-spike flowering of a rare specimen.

Our other winners on the night were: Best in Intermediate Section — *Cym.* (Oiso x Yowie Flame) exhibited by C&D Jones; Best in Novice Section — *Cym.* Sue 'Susan' exhibited by T Williams; Best Seedling — *Cym.* (Emma's Love x Via Lunagrad) exhibited by J&A Leamon.



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(WINTER WONDER X CORAKI 4N)

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- T338 *Cym.* Mary Ann x Chocolada 'The Giant'
- T334 *Cym.* (Valley Paradise x Fanfare 4N) x Chocolada 'The Giant'
- T329 *Cym.* Strath Wonder 'Cream Puff' x Chocolada 'The Giant'

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*Cym. Glen Eagles 'Cooksbridge Advent'*

## July

One of the nicest things about driving to a meeting in the middle of winter is being greeted by the warm buzz of friendly chatter as you hurry in out of the cold — our July gathering being especially enjoyable. Our two committee members, Kevin and Henk, (who have deserted us for warmer climes) are, respectively, enjoying the sunshine in Western Australia and Queensland. We also welcomed back Sean Moore, his return being quite timely as

Ken's camera had given up the ghost as a result of its heavy work load during the past few meetings.

The details of the COSV show to be held at The Glen Shopping Centre in October were confirmed, with setting up taking place on the 1st of October and the display being on view during trading hours until the 8th of October. There will be a sales table at this show, at the request of Centre management, which will provide members with an excellent opportunity to sell off all those excess plants we cannot



*Cym. (Hove x Tracey Reddaway)*

seem to avoid accumulating.

Our regular cultural discussion was led off by Terry Poulton, who had an initial comment or two to make about the cartoon strip depicting his recent shade house "adventures" with unwelcome livestock, suggesting that its appearance in the current newsletter was most likely the result of a bribe to the Editor by an unknown fellow grower! When referring members to the newly flowered plant he'd brought in Terry indicated that, in his opinion, a new Ugliest Seedling Section should be added for judging and that his remarkably unattractive plant was a prime candidate. Commenting on combating aphids, which are beginning to make their presence felt in his shade houses, Terry suggested that if Rose Dust wasn't doing the trick then the use of Mortein House & Garden spray or Bayer's Rose & Ornamental spray had been recommended to him as good alternatives and he is currently trialing the Bayer's product (which is an insecticide and a fungicide) on a test patch, as a precautionary measure, prior to using it on the whole collection. He also has further testing on various funguses in mind and will report on the results. Multiguard is being used for slugs and snails, a preparation which is safe for your pets.

The evening's main item was a floral art demonstration, something quite different for most of our members. In assembling five arrangements, Wendy McKerley, from the Mt Waverley Floral Art Society, impressed everyone present with the ease and speed of creating stunning designs for displaying cymbidiums beautifully. For anyone who feels they may be interested in developing their talents in the floral art area, the society's meetings are held on the same night and at the same venue as ours, making it very convenient for the partners of orchid-growing menfolk to attend.

There was an extremely good benching of quality plants for judging and the Best in Open Section and Judges Vote was *Cym. Glen Eagles 'Cooksbridge Advent'* exhibited by C&D Allen, who were delighted with the success of their plant given the high standard of competition at this meeting. Best in Intermediate Section was *Cym. Valerie Brown 'Pollyanna'* exhibited by T Antoniou. Best in Novice Section was *Cym. Velvet Fire 'Ruby'* exhibited by R Crozier — her first win — congratulations Rosemarie. Best Species was *Cym. dayanum* exhibited by B Rowe. Best Seedling Flowering for the First Time was *Cym. (Hove x Tracey Reddaway)* exhibited by T Poulton. Well done all. ■

Carolyn Allen  
18 Wootten Crescent  
Langwarrin, Victoria 3910



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AOR 149



# Worth The Wait

*Cym.* (Thurso 'Mont Millais' x Angelica's Ultimatum 'Cooksbridge Abundance') 4n.

by Rob & Noe Smith

We purchased this crossing from Mark Wheatley's nursery, Chelsea Exotics, in Western Australia. Mark had imported the cross from its makers, the famous McBean's Nursery in England. We bought six single-bulb seedling plants and although we usually buy seedlings by the flask, if they're unavailable that way we always buy at least half-a-dozen of the crossing, if we can get them. We saw photographs of the pod parent in this cross, *Cym.* Thurso 'Mont Millais', as well another example of the grex, *Cym.* Thurso 'Cooksbridge', in an English orchid book by Mike Tibbs and Ray Bilton. Both flowers were large, shapely greens of tailored shape and well balanced white lips with the distal ends being banded in red. The book also contained a photograph of the other parent used in the crossing, *Cym.* Angelica's Ultimatum 'Cooksbridge Abundance', which was a filled-in and shapely flower that was coloured a very nice soft ice green with a white lip lightly spotted with red. We saw this hybrid as having good potential for shapely green and yellow standards, with the possibility of adding a slightly different genetic line to our breeding stock.

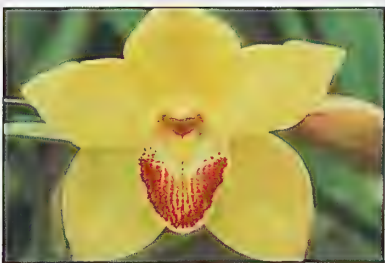
The plants were strong and vigorous (although not early flowerers), with all plants reaching 5-6 bulb size before initiating flower spikes. In the 1998 season, four of the six plants flowered, with two of these four plants carrying one spike each and the other two with two spikes each. While the influence of the *Cym.*



Example 1: Poor shape and unattractive sun-staining



Example 2: Some sun-staining and pinched sepal and petal tips



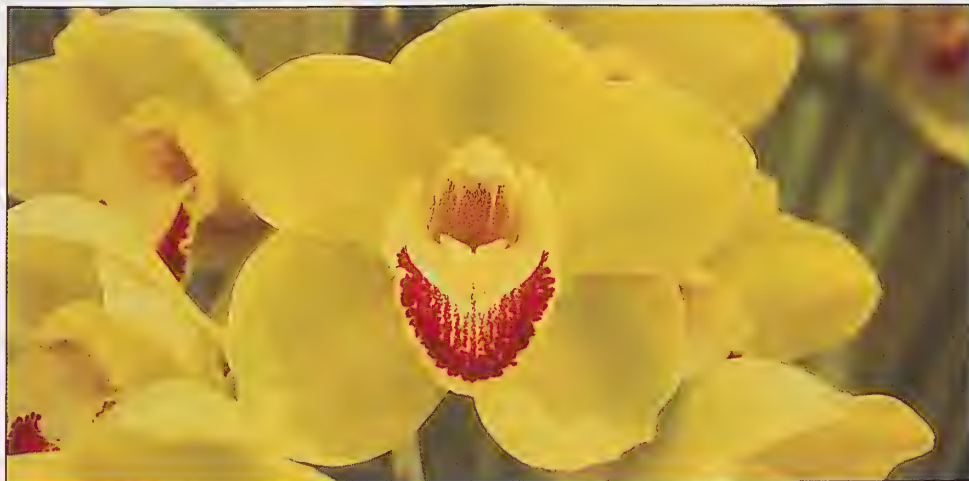
Example 3: Better shape and lip than Examples 1 and 2, but ... ?

Thurso lip came through on the blooms of each plant, the shape, size and colour were uninspiring in three of the four plants flowered. The blooms on the fourth plant made up for the others, being of large size, full shape, clear colour and with the best lip. It carried two spikes of eight blooms per spike and they were well-spaced and needing no manipulation as the flowers set themselves to perfection. The flowers have good substance and show no sun-staining on either the inside or outside of the tepals.

The list of parents making up the previous generation reads as follows: *Cym.* Thurso = (Miretta x York Meredith); and *Cym.* Angelica's Ultimatum = (Angelica x Ultimatum). *Cym.* Thurso has also been used to good effect by the Eric Young Foundation and included in their crossings with it is *Cym.* Maufant = (Thurso x Red Beauty).

The accompanying photographs show that, while not all seedlings produce the flowers hoped for when a crossing is made, some do live up to the promise of their parentage and that those flowers make the growing of seedlings worthwhile. We are waiting eagerly for *Cym.* (Thurso x Angelica's Ultimatum) 'Aranen' to flower for the second and subsequent times to gauge its true potential... and, of course, for the two remaining unflowered seedlings. ■

Rob & Noe Smith  
24 WilliamHunterCourt  
Rosebud, Victoria 3939



Example 4: *Cym.* (Thurso x Angelica's Ultimatum) 'Aranen' 4n



# CCSA Winter Show 2000 And Awards

Text by Dean Roesler – Photography by Graham Shevlin

**P**rior to the staging of the Cymbidium Club of South Australia's Winter Show I had just returned from visiting the Sydney area where I was greeted with the news that their flowering season was some four to six weeks in arrears. During last summer South Australia too had experienced some of its hottest periods on record and reports of strange flowering patterns

had been emerging since earlier in the year. Therefore, I returned home not without some fear and trepidation that perhaps we might be struggling to stage the normal high standard event people have come to expect from this state. I need not have concerned myself, for once again club members rallied to present a magnificent spectacle for the general public to view in the

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*Cym.* (Valley Regent x Ruby Eyes) CE/CCSA

Munno Para Shopping City from the 3rd to the 8th of July 2000.

The Grand Champion of the Show, as well as being Champion Intermediate, was a magnificently presented plant of *Cym.* Willunga Regal 'Purple Pageant' CE/CCSA exhibited by Vic Haskard. As the name implies it was a deep purple-red intermediate and featured an impressive white labellum banded with very dark purple on the mid-lobe. Five pendulous spikes carried 121 flowers with the best count being 27 flowers, a further three spikes were still maturing of which two were still within the sheath. It was a pleasure to see an orchid such as this presented with its natural spike habit, all too often we see growers trying to show upright spike presentation on plants that naturally cascade. This orchid received a Commendation for Excellence from the CCSA judging panel in 1995 and it is indeed refreshing to see an awarded plant still creating excitement and comment some five years later on.

Champion Miniature of the Show was Colin and Nan Grigg's plant of *Cym.* (Pendragon x Magic Elf) 'My Sweetheart'. This was a delightful little



pale cream, almost white, flower with a broad labellum lightly marked with burgundy and highlighted by a narrow band on the distal end with a tick extending up the centre to the base of the keels — this gave the impression that the flowers were smiling at you! Seven upright spikes carried an average of 17 flowers on each. The plant was granted two awards by the CCSA judging panel, a Commendation of Excellence as well as receiving a Commendation for Pot Plant award.

In the Standard Cymbidium section Moss and Rosemary Bray's plant of *Cym.* Via Lunagrad 'Reynella' was judged to be the Champion Standard. This plant displayed six spikes above the foliage and carrying up to 15 flowers on each. The soft pink flowers made a beautiful exhibit.

Two other plants were granted awards with both being seedlings shown for the first time. The Cymbidium Club of South Australia is placing a great deal of emphasis on seedlings in an endeavour to encourage further development of cymbidiums.

*Cym.* (Valley Regent x Ruby Eyes) exhibited by Murray Weston was granted a Commendation for Excellence. This was a lovely deep pink intermediate with a beautiful white labellum featuring a solid dark burgundy band. A single upright spike carried 16 flowers.

Champion Seedling of the Show and also Champion Seedling of Open Division was *Cym.* (Pendragon x Valley Gratitude) 'The Globe' exhibited by Alec, Chris and Paul Canala, it also received a



*Cym.* Willunga Regal 'Purple Pageant' CE/CCSA

Commendation for Excellence. A very full shaped intermediate from the crossing of a cream intermediate with a light pink standard, the colour was pearly-cream with a hint of pink, the labellum was marked all over with small red spots.

Champion Seedling of the Second Division was *Cym.* (Peter Dragon x Sleeping Dream) exhibited by the Club's hard working President Ray Brady. A

white intermediate that made up for lack of shape with a dramatic dark (almost black) labellum. In First Division, Brian and Shirley Brand's *Cym.* Marilyn Levy (Red Beauty x Ruby Eyes) was Champion Seedling. This was a brown/red intermediate with a red barred labellum and was one of many from this cross on display. An extremely consistent cross it has produced a range of very colourful intermediates in



*Cym.* (Pendragon x Valley Gratitude) 'The Globe' CE/CCSA

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*Cym.* (Pendragon x Magic Elf) 'My Sweetheart' CE, CPP/CCSA

shades of red, red/brown, dark pink and purple. I have been responsible for most of the seedlings flowered from this cross in South Australia when pollen from *Cym.* Ruby Eyes 'Red Baron' 4n was placed onto the diploid form of *Cym.* Red Beauty 'Bronze Delight'. However, I did not register the cross, this was done by Loren Batchman from California, USA — it would be interesting to hear which *Cym.* Red Beauty he used and to compare the results that were achieved!

Tradition has invariably seen South Australian *Cymbidium* growers exhibit more intermediates and miniatures than are seen in other states and this show was no exception, with two thirds of the plants shown being within these size classes. The standard of plants exhibited in this show were of exceptional quality and members are to be congratulated on their efforts. ■

**Dean Roesler**  
Lot 14 Lawson Road  
Kalbeeba, SA 5118



*Cym.* Early White 'Morgan' CE/CCSA



*Cym.* Via Lunagrad 'Reynella'

## Profiling *Cym*

by B

**C**irca 1960 the American organisation, Fred A. Stewart Inc. cross pollinated *Cym.* Early Bird 'Pacific' with *Cym.* Balkis to make a grex that was later to be registered as *Cym.* Fred Stewart.

Precisely which variety of *Cym.* Balkis was used is speculation but since the variety 'Silver Orb' was favoured by Stewart's this would be the most obvious choice.

Four clones (at least) from the grex received Highly Commended Certificate awards - 'Olympus', 'Adonis', 'Patriarch' and 'Silverlight'.

Stewart's, in their catalogues, rated 'Adonis' as better than the others, but of the *Cym.* Fred Stewart clones, the one that has predominated in breeding is 'Olympus'.

The clone 'Olympus' is a white whereas 'Polaris' has pale pink overtones and the latter proved less productive than its sibling.

Australian hybridisers imported divisions of both 'Olympus' and 'Polaris' during the 1970's and used both extensively in hybridising. 'Olympus' in particular was to have a tremendous impact on *Cymbidium* breeding, especially in Australia.

My clone of 'Olympus' suffered from quarantine treatment and did not flower until the early 1980's. When it did, I noticed it had a tendency to produce spikes from the same pseudo-bulb in subsequent years. It was also reluctant to produce new leads, producing flower spikes instead.

That trait ultimately proved both fatal and beneficial.

The benefit was the so-called "super production", that is, multiple spikes are produced from the same pseudo-bulb.

For those engaged in cut-flower production, the more spikes per square metre of growing space the better.

For those selling to the pot-plant trade, two or more spikes can make a substantial difference to sales.

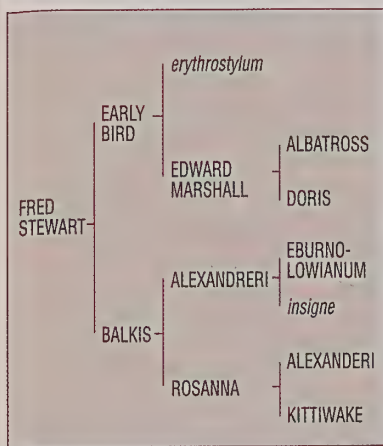
During the 1970's Stewart's made a cross between *Cym.* Fred Stewart 'Olympus' and *Cym.* Stanley Fouraker 'White Magic' and several hundred of the seedlings were imported into Australia. This crossing, of course, makes *Cym.* Winter Fair, a grex that was to have a profound effect on the creation of our modern cymbidiums.

*Cym.* Fred Stewart clones will produce most colours, including very deep reds. The genes for this obviously come from its



# Fred Stewart

Johnson



*Cym. Via Costa 'Glenwood'*

*Cym. Balkis* parent because that has produced very intense pinks in the past.

*Cym. Fred Stewart* usually produces good flower shape in percentage, and spike habit is mostly erect and, once again, this can probably be attributed to *Cym. erythrostylum*.

As I have stated previously (see Profiling *Cym. Trigo Royale*), a percentage of the progeny of any grex in which *Cym. erythrostylum* is a close parent, can suffer flower damage, if flowered in cold and damp conditions.

I have found that flower count can be as low as eight if the other parent used also contains *Cym. erythrostylum* genes, otherwise the flower count is satisfactory.

Because flower count is an issue that must be considered, when selecting another parent with which it is to be pollinated, it is essential that it have a high flower count.

Lip form is always a problem when inbreeding with *Cym. erythrostylum* progeny because its unattractive, pointed lip can reappear. A pointed lip is not complementary to the rounded flower segments that we are seeking in the modern hybrid and that is a problem we see so much today.

There is one aspect of *Cym. Fred Stewart's* genotype that is not well known - it will produce very deep reds. I discovered this when I flowered seedlings from the cross of *Cym. Aureart* (= *Fred Stewart* x *Doris Aurea*). Several were very deep claret reds.

In 1998 and '99 I flowered the first seedlings from *Cym. (Valley Zenith 'No.821' x Fred Stewart 'Olympus')* and the results were very promising. So far all have been whites. One seedling won best Standard Cymbidium Seedling in a show for the owner in 1999. What was interesting was the fact that whites have predominated!

I also flowered my version of *Cym. Americana* (x *Cym. Miretta 'Mem. A. A. McBean'*) in 1998 and spike habit, flower-

ing and shape were excellent and I will be testing its breeding qualities this season. This grex produced pinks! Since the *Cym. Valley Zenith* grex also had *Cym. Miretta 'Mem. A. A. McBean'* as a parent the colour variation between these two grexes is interesting.

If one traces the genetic history of modern large cymbidiums *Cym. Fred Stewart* is likely to be in there somewhere. Approximately 42 *Cym. Fred Stewart* and at least 42 *Cym. Winter Fair* crossings are registered.

*Cym. Fred Stewart's* more notable first generation progeny include:-

*Cym. Winter Fair* (x *Stanley Fouraker*)

*Cym. Americana* (x *Miretta*)

*Cym. Palace Court* (x *Palomar*)

*Cym. Via Costa* (x *Solana Beach*)

Second generation progeny include:-

*Cym. Winter Wonder* (= *Winter Fair* x *Fanfare*)

*Cym. Fair Wall* (= *Winter Fair* x *Wallara*)

*Cym. Winter Beach* (= *Winter Wonder* x *Solana Beach*)

*Cym. (Winter Wonder x Rincon)*

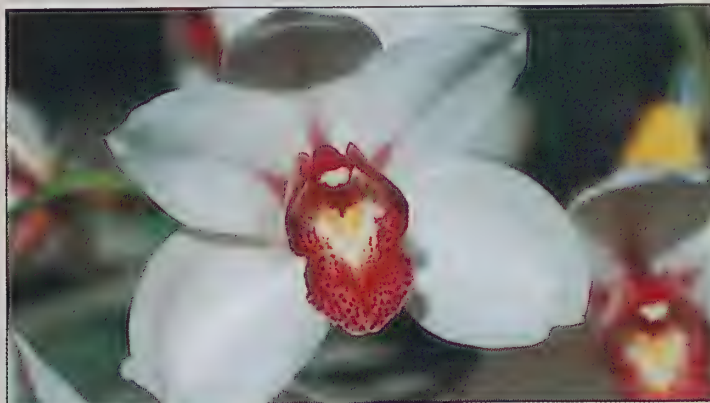
With its continuing success as a parent and the success of its progeny being obvious, we haven't seen the last of the *Cym. Fred Stewart* breeding line.

Most, if not all, of the hybrids listed above have produced a good percentage of quality clones. However, excessive interbreeding is showing signs that the worst traits of *Cym. erythrostylum* are being retained in a percentage of many seedlings.

In spite of that, there is no doubt that when used correctly, this line of breeding will continue to dominate future *Cymbidium* breeding for a long time to come.

Bill Johnson

1265 Western Port Highway  
Langwarrin, Vic. 3910



*Cym. Fred Stewart 'Polaris'*



## SHOWDATES

DATE	TIME	SEASON	ORCHID SOCIETY	SHOW ADDRESS
<b>Queensland</b>				
5-7 October	9.00am-5.00pm closes 12 noon Saturday	Spring	Blackwater & District	Blackwater Town Centre
5-7 October	Shopping Centre Hours	Spring	Pine Rivers	Aspley Hypermarket Gayford Road, Aspley
6 October	9.30am-5.00pm	Spring	Tweed District	Club Banora
7 October	10.00am-4.00pm			
7-8 October	9.00am-4.00pm	Spring	Bribie Island	Bribie Island Indoor Bowls Club Hall First Avenue, Bribie Island
12 October	9.00am-9.00pm	Spring	Bundaberg	Hinkler Place Shopping Centre
13 October	9.00am-5.30pm			Maryborough Street
14 October	9.00am-1.00pm			Bundaberg
12 October	8.30am-9.00pm	Spring	Southport & Districts	Burleigh Town Market Place Shopping Centre
13-14 October	8.30am-5.00pm			
? October	9.00am-8.00pm	Spring	Herbert River Orchid & Allied Plant	Moraka Show Herbert Street, Ingham
<b>Victoria</b>				
5 October	9.00am-8.00pm	Spring	Mornington Peninsula	Church of Christ Hall 130 Cranbourne Road, Frankston
6 October	9.00am-4.00pm			
6-7 October	9.00am-5.00pm	Spring	Australian Native	Karralyka Centre Mines Road, Ringwood
8 October	9.00am-4.00pm			
6 October	1.00pm-5.00pm	Spring	Bendigo	YMCA Leisure Centre Browning Street Kangaroo Flat
7 October	9.00am-5.00pm	Spring	Albury/Wodonga & District	Albury Coursing Club Borella Road, Albury
8 October	9.00am-4.00pm			
7 October	11.00am-4.30pm	Spring	Colac	Colac High School Assembly Hall Princes Highway, Colac West
8 October	10.30am-4.00pm			
8-14 October	Shopping Centre Hours	Spring	Ringwood	Eastland Shopping Centre Maroondah Highway, Ringwood
14 October	8.00am-4.00pm	Spring	Cobden	Civic Hall Victoria Street, Cobden
15 October	9.00am-3.30pm			
14 October	9.00am-5.00pm	Spring	Horsham & District	Horsham Town Hall Wilson Street, Horsham
15 October	9.00am-4.00pm			
20 October	2.00pm-5.00pm	Spring	Ballarat	S.M.B. Horticultural Centre Cnr. Gillies & Gregory Streets Ballarat
21 October	10.00am-5.00pm			
22 October	10.00am-4.00pm			
21 October	9.00am-5.00pm	Spring	Yarra Valley	Public Hall, Warburton Highway Seville
22 October	10.00am-4.00pm			
27-28 October	9.00am-5.00pm	Spring	Ararat	Town Hall, Cnr. Vincent & Barkly Streets Ararat
29 October	10.00am-4.00pm			
1-12 November	9.00am-5.00pm	Spring (Sarcophilus Festival)	Maribyrnong	Maribyrnong Community Centre Randall Street, Maribyrnong
4-5 November	10.00am-4.00pm	Spring	Australasian Native (Geelong Group)	Scout & Guide Guild Hall Myers Street, Geelong
10 November	10.00am-5.00pm	Summer	Mornington Peninsula/ OSCOV	Church of Christ Hall 130 Cranbourne Road, Frankston
<b>New South Wales</b>				
5-6 October	9.00am-5.00pm	Spring	Sapphire Coast	Bega Town Hall, Zingel Place, Bega
6-8 October	TBA	Spring	Tweed District	Club Banora, Leisure Drive, Banora Point
7 October	9.00am-3.00pm	Spring	Species Orchid & Carnivorous Plant Society Illawarra	St Aidan's Anglican Church Hall Mt Brown Road, Dapto
8 October	10.00am-3.30pm	Spring Festival of Orchids	Hastings River	Broken Bago Vineyards Bago Road, Wauchope
22 October	10.00am-4.00pm	Spring (Sarcanthinae Native Orchid Show)	ANOS Sydney Group	Jasper Road Public School, Cnr Jasper & Seven Hills Road Baulkham Hills
26-28 October	Shopping Centre Hours	Spring	Northern Rivers	Lismore Shopping Centre McKenzie Street, Lismore
30 October- 4 November	Shopping Centre Hours	Spring	OSNSW	Marketown Mt Druitt
<b>Tasmania</b>				
6-8 October Spreyton	TBA	Spring	Devonport	Maidstone Park Memorial Hall,
12-14 October	9.00am-6.00pm	Spring (15th Aust. Orchid Conference)	Burnie	Burnie Civic Centre Burnie
15 October	9.00am-4.00pm			
<b>South Australia</b>				
7-8 October	10.00am-4.30pm	Spring	Orchid Club of SA	Carrick Hill Manor House Carrick Hill Drive, Springfield
<b>New Zealand</b>				
7 October	10.00am-5.00pm	Spring	Nelson	Hampden Street School Hall, Nelson
8 October	10.00am-4.30pm			
13 October	11.00am-6.00pm	Spring	Wairoa	Presbyterian-Methodist Hall Queen Street, Wairoa
14 October	10.00am-4.00pm			
28 October	10.00am-5.00pm	Spring	Wairarapa Orchid Circle	Town Hall Masterton
29 October				



# Australian Orchid Review

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- C. Lambrusca* 'Royale' x *C. (Mistress Mary x Mem. Gracie Allen)* 'Rasp. Delight'
- C. Lambrusca* 'Royale' x *C. Peggy Foo* 'Who'
- C. Phil Cass* 'Highlights' x *C. (Pink Champagne x Jessica Dubroff)* 'D-Lite'
- C. One Tree Hill* 'Johns Quest' HCC/AOC x *C. Tom Thumb* 'Chit Chat' 4N
- C. Snowaker* 'Mexicano' x *C. Red Adair* 'Smiler'

- C. Mem. Gracie Allen* 'Strawberry Sorbet' x *C. Candy King* 'Geyserland'
- C. Claude Pepper* 'Purple Splendor' x *C. John Wooden* 'Royale' HCC/AOC
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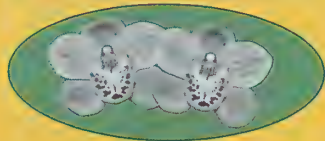
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## From the Editor's Desk



Just the name "Dracula" conjures up various thoughts in people's minds. It therefore amuses many to learn that it is also the generic name for a great group of orchids from the rainforests of Central and South America. In this issue, Gary Backhouse shares his knowledge on the genus, with some great cultivation tips. His photography is outstanding, and all of his subjects are from plants in his extensive *Dracula* and *Masdevallia* collection. Gary is well known as the co-author (with Jeff Jeanes) of *The Orchids of Victoria*, published in 1995. The same authors have also embarked on an updated version, in CD-Rom format. This will feature over 1000 photographs, covering all of Victorias orchid species and known natural hybrids, showing the variations one is likely to encounter in the field. A review will appear in the next issue of the AOR.

### Australian Orchid Council

Our best wishes go to Murray Aldridge, who was elected as AOC President at the recent successful AOC Conference in Burnie, Tasmania. He takes over from John Harris who has been a stalwart of the AOC over the past couple of decades. Murray is a fine ambassador for orchids and I personally wish him every success and encouragement in this role.

### Sid Batchelor (1929-2000)

The Australian orchid community lost one of its icons, with the passing of Sidney Albert Batchelor on 5th September 2000. Sid had been a friend to our family for over 50 years. Sid and his late father were involved in the Parramatta and District Orchid Society from its genesis back in 1950. My father Graeme struck up a friendship with Sid in that inaugural year, which prospered over the years. In those days Sid was involved with the cultivation of cymbidiums, with a few cattleyas thrown in.

However, in the mid 1970s Sid's attention shifted to Australian native orchids. He started acquiring choice species and hybrids with a view of creating his own breeding lines. At this stage Sid decided that he would do his own flasking. In those early flasking days he asked my dad for advice and assistance, but, knowing Sid the perfectionist, he quickly improved upon this and developed his own outstanding techniques. The quality of Sid's flasks became a benchmark of others to aspire to. I still remember his first hybrids; a remake of *Dendrobium* Ellen (using the "pink-lipped" form of *D. tetragonum* var. *giganteum* with *D. kingianum* 'Betty') and a cross between *D. Eureka* and *D. kingianum* 'Betty', which he later registered as *D. Yondi*. From that point the name "Yondi" was forever linked with Sid. He bred some great orchids, many using his beloved *D. Star of Gold* 'Bathurst'. Producing *D. Yondi* Tina 'Goliath' FCC/AOC-NSW, FCC/ANOS was his finest hybridising effort. Unfortunately, Sid did not live to learn that it also won the Australian Orchid Council's prestigious "Orchid of the Year" for 1999.

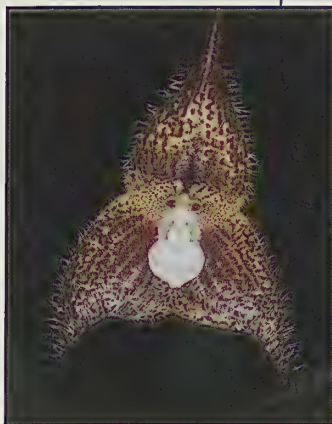
Sid was involved with a lot of orchid societies; being a Past President and life member of Cumberland Orchid Circle, a life member and patron of ANOS Sydney Group, a life member of ANOS and a respected member of OSNSW and the Australian Orchid Foundation. In 1993, Sid was presented with the prestigious Ira Butler Gold Trophy for Outstanding Achievement in the breeding of Australian native orchid hybrids.

Sadly, on the day of Sid's passing, I was on a plane to New Zealand. I didn't find out about Sid's death til after his funeral, where my dad delivered the eulogy. Sid had always been a great source of encouragement and inspiration for me. We used to travel to ANOS meetings together when I was still at school (I actually introduced him to ANOS Sydney Group!) and he gave me my first reference when I finished high school. We also shared numerous orchids over the years. Our sympathy goes to his devoted wife Gwen and the extended Batchelor family. Sid was a true gentleman and will be sorely missed, but his legacy will live on in the many fine plants he developed, registered and shared with the orchid world, both in Australia and overseas.

David P. Banks  
Editor, Australian Orchid Review  
dpbanks@ozemail.com.au



## OUR COVER



*Dracula woolwardiae*

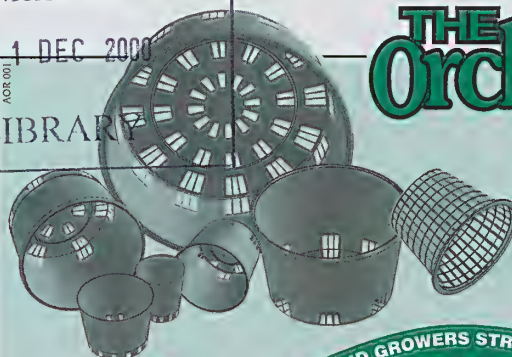
It's hard enough to believe it's a flower, let alone an orchid.

*Dracula woolwardiae* is a species endemic to Ecuador, related to the popular genus *Masdevallia*.

See other members in this major photo essay and learn how to grow these amazing plants.

Plant and photo: Gary Backhouse

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# Growing the Genus *Dracula*

Text and photographs by Gary Backhouse





*Dracula chestertonii*







The name 'Dracula' immediately invokes images of Count Dracula of Transylvania, who was, according to legend, a human vampire. For orchid growers, the name also refers to a fabulous group of orchids hailing from central and South America. In its botanical application, *Dracula* means 'little dragon', in reference to the wonderfully strange, bizarre and sometimes sinister appearance of the flowers of *Dracula*. To reinforce the vampire connection, the developing flower buds of many species look like a blood-tipped fang, so *Dracula* is an apt generic name for these botanical wonders.

In the long history of orchid taxonomy, seldom has a group of orchids been given such imaginative and inspirational names as some of those applied to species of *Dracula*. You can only have admiration for the flair of botanists who, entranced by the flowers, let their imagination run to provide plants with names including *anacula* – little old woman; *bellerophon* – the mythical hero who slayed the Chimaera beast; *carcinopsus* – like a crab; *chimaera* – the mythical fire-breathing hybrid beast; *cutis-bufonis* – skin of a toad; *diabola* – the devil; *fafnir* – a dragon; *gorgona* – the mythical gorgons, evil sisters with hair of snakes; *lemurella* – little ghost; *minax* – the threatening or sinister orchid; *lotax* – clown; *polyphemus* – after Cyclops, the one-eyed monster; *simia* – ape or monkey-like; *vampira* – the vampire bat; *venifica* – the witch; *vespertilio* – the bat, and *vlad-tepes* after Vlad Tepes, the Count Dracula. Interestingly, one of the largest and earliest described species was recognised for its beauty rather than grotesqueness, and called simply *bella* – beautiful! These orchids are almost worth growing only for the names on the plant tags, even without their spectacular flowers.

Left: *Dracula andreetae*. Below left: *Dracula astuta*.  
Below: *Dracula bella*



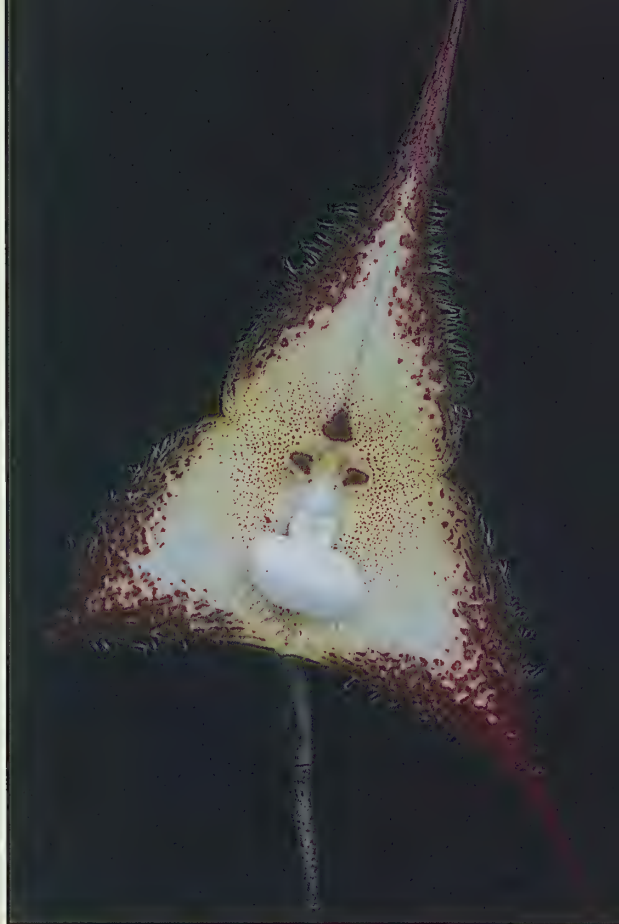


### Distribution and Natural History

The genus *Dracula* contains perhaps 110 species, and is distributed from Mexico to Peru, but virtually all species are confined to Columbia and Ecuador. Most grow as epiphytes in shaded situations in cool, moist montane and cloud forest, from about 1500 metres up to 2500 metres altitude. A few species such as *D. sodiroi* also grow on the ground, often colonising road-cutting embankments. Many species appear to have an incredibly restricted distribution, seemingly being confined to a single valley in some cases. With the extent of habitat destruction of montane forest in these countries, many species are now rare in the wild. A few are known only from the original collection, the plants in cultivation all being divisions of the original collected plant.

The genus *Dracula* belongs to the large and diverse American subtribe *Pleurothallidinae*. Plants lack pseudobulbs, and have a single long leaf with a short stem arising from a generally short rhizome, with most species forming dense clumps. Vegetatively, most species look virtually identical. The flower stem arises from low down on the leaf stem and arches outwards, upwards or downwards. The inflorescence varies from a few cm to 40 cm or more in length, and bears one or more flowers, opening in succession. In only very few species, such as *D. sodiroi*, are several flowers open at once on the same raceme. In large plants, an inflorescence may bear up to five or six flowers before it dies off. The characteristic appearance of *Dracula* flowers arises from the enlarged sepals variously joined to form shapes ranging from a flat triangle to a cupped disk. The sepaline tails are free, and vary from short to long and filamentous. The petals are small and closely flank the column, while the labellum is generally not a dominant feature,

Below left: *Dracula chimaera*. Below right: *Dracula cochliops*.  
Right: *Dracula cordobae*.







Above left: *Dracula diabolus*. Above: *Dracula erythrochaete*.  
Below left: *Dracula gastrophora*.

except in a couple of species. Flower size ranges from the 2 cm wide *D. rezeckiana* and its allies, to the giants including *D. bella*, *D. chimaera*, *D. chiroptera*, *D. hirtzii*, *D. polyphemus*, *D. vampira* and *D. wallisii*, which may measure 7-8 cm across the sepaline disc and be 25 cm or more across including the long sepaline tails. These dramatic flowers are amongst the floral wonders of the orchid world. While not as spectacular as their bigger cousins, the small-flowered species such as *D. benedictii*, *D. diabolus*, *D. inaequalis*, *D. lemurella* and *D. rezeckiana* certainly have a charm all of their own. In a genus where bizarre flowers are the norm, probably the weirdest-looking would have to be *D. chestertonii* and *D. cutis-bufonis*, which have flowers with an enlarged labellum resembling the underside of a gilled mushroom, no doubt helping to attract the fungus fly pollinator.

### Cultivation

For many years, *Dracula* were seen as mysterious, expensive orchids, difficult to cultivate, largely unobtainable and highly prized. When I first inquired at one specialist nursery about buying some plants, I was virtually told I would have to serve an 'apprenticeship' growing *Masdevallia* species for a few years, then I might be able to get some *Dracula* species! Well, since obtaining my first *Dracula* about 10 years ago, I have found them relatively easy to grow, certainly much more forgiving than many *Masdevallia* species. In the right conditions, plants grow rapidly, and large plants will flower throughout the year.

Until relatively recently, most species available in the nursery trade were from divisions of imported plants, but an increasing number of species are now grown from flask and becoming more readily available. However, a few species are still rare in cultivation and command high prices when offered for sale. Although





Above: *Dracula exasperata*. Below right: *Dracula gigas*.

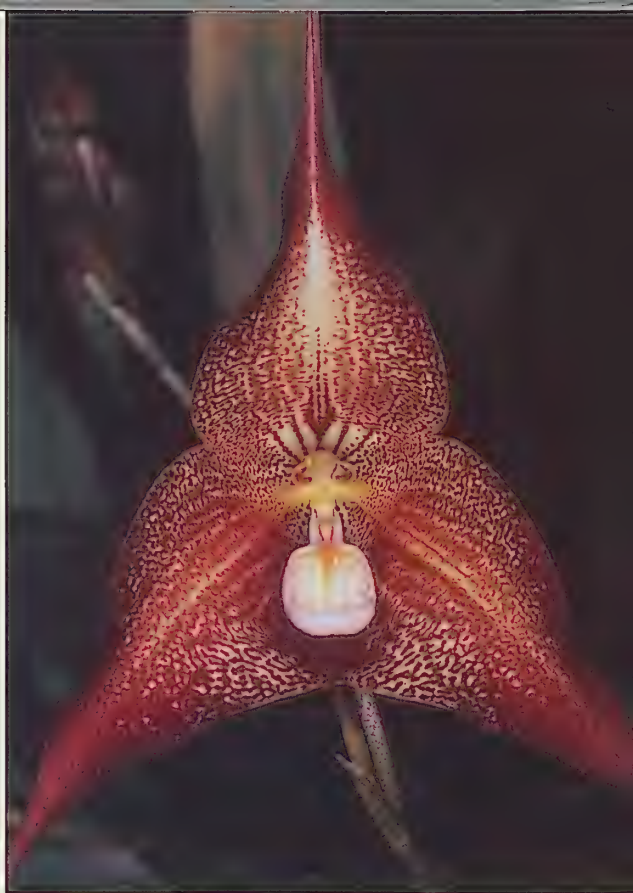
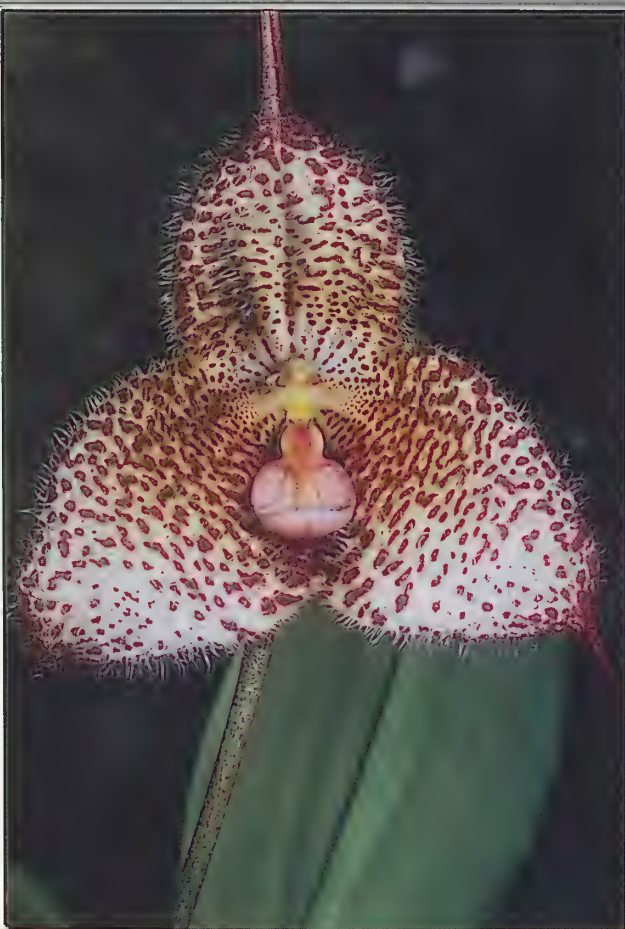
increasingly grown in collections, *Dracula* are not often seen at club meetings or shows because of the difficulty of transportation and display of plants with long pendant spikes and large fragile flowers that wilt in low humidity and warm conditions. The small-flowered species have much more robust flowers that withstand low humidity better and can be transported and displayed easily, and a specimen plant with dozens of flowers looks a treat.

#### Temperature and Humidity

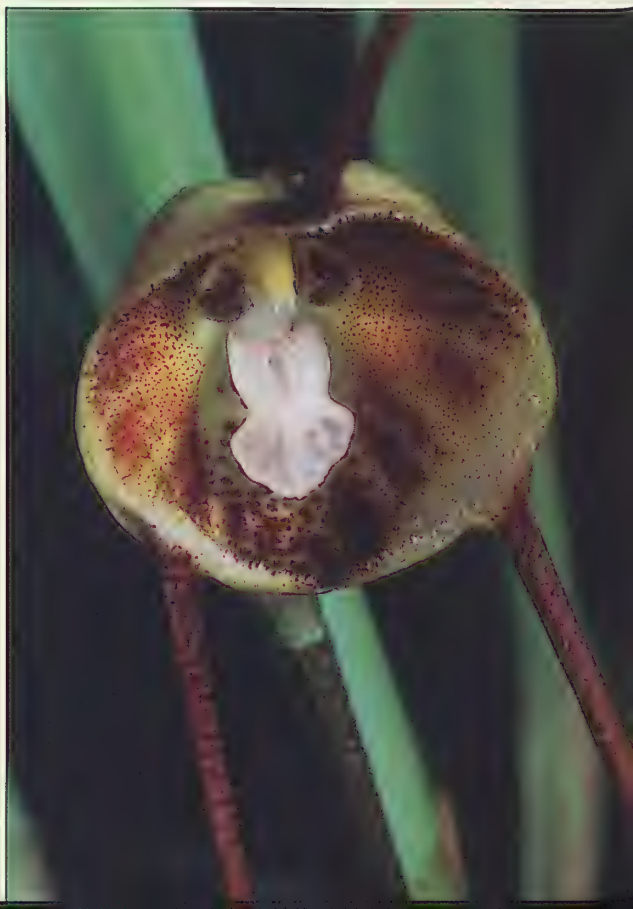
The key to successful culture of *Dracula* is to maintain a cool, humid, shaded environment all year round, and the Melbourne climate for much of the year generally suits *Dracula* well. The difficult period in growing these orchids comes during summer, when hot temperatures and very low humidity are highly stressful (and, if not controlled, ultimately lethal) to *Dracula*. So, the growing environment must provide cool humid conditions over summer. An enclosed house such as a glasshouse or polyhouse rather than an open shadehouse is best. This can be opened and ventilated when required, and closed up to provide protection from very cold conditions. Most importantly, it can be kept cooled with a misting system and an evaporative air cooler or air-conditioner on the hot summer days. Temperatures in excess of 30°C stress plants, 25-30°C are tolerable for short periods, while plants seem to do best below 25°C. Low winter temperatures don't seem to be a problem, as my unheated orchid house gets down to 3°C on the really cold nights, but then warms up to the mid-high teens during the clear sunny days in winter. A few species including *D. cordobae*, *D. hirsuta*, *D. simia* and *D. woolwoodiae* seem to be able to withstand warmer temperatures better than most *Dracula* species. Others, particularly *D. chimera*, *D. platycrater*, *D. robledorum* and *D. vampira*, are very sensitive







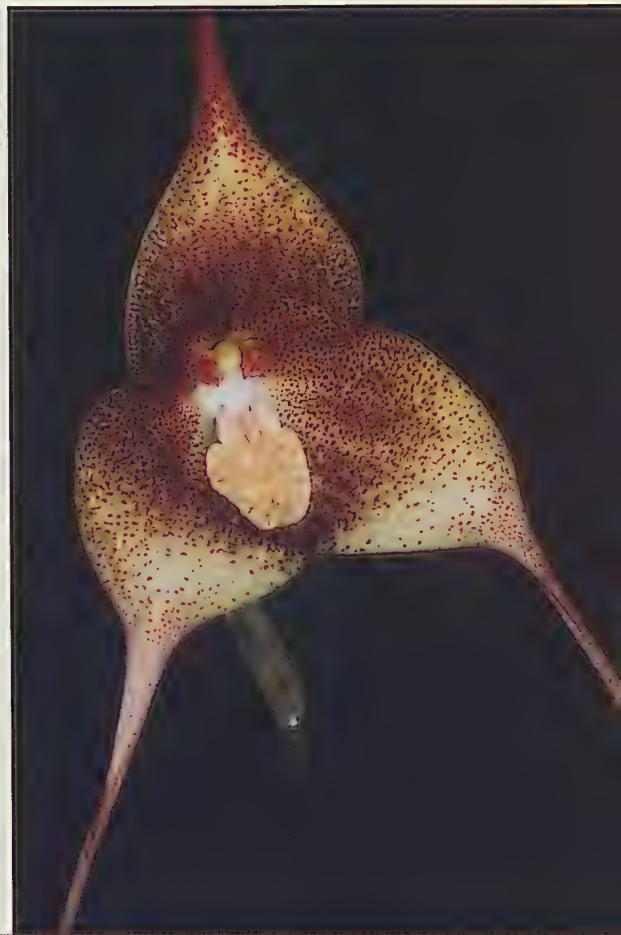
Above left: *Dracula gorgona*. Above: *Dracula hirtzii*.  
Below left: *Dracula inaequalis*. Below: *Dracula lumurella*.



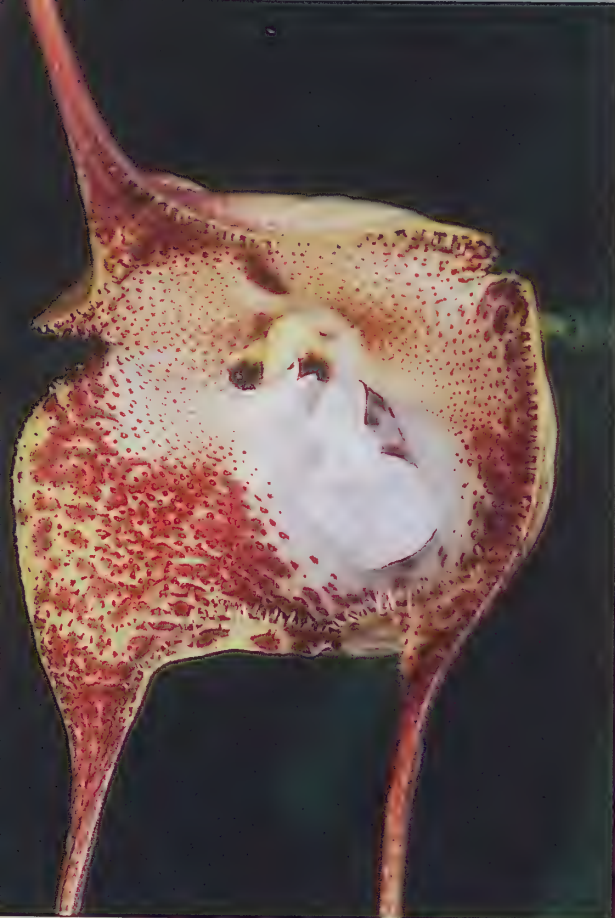




Above: *Dracula platycrater*. Above right: *Dracula polyphemus*.  
Below: *Dracula roezlii*. Below right: *Dracula sibundoyensis*.







to high temperatures, with flower buds aborting and leaves wilting or dropping off as signs of stress. Plants are also prone to spider-mite infestation during the warmer weather. While chemical sprays can control the mites, the underlying cause of the problem – stress on the plants – can only be solved by improving cultural conditions, especially reducing temperature and raising humidity.

Leaf-tip dieback is a common problem in summer, and is probably indicative of heat stress on the plants, although some growers think the problem is linked to chlorine or other compounds in the water. However, with the onset of cooler autumn weather, the new leaves come up lush and green, free of black leaf tip, and you can almost hear your plants breath a sigh of relief that the hot weather has gone. Flower size is decreased and flowers open poorly during warmer summer weather, but flowers that open during cooler weather are larger and last longer.

In order to keep the environment humid and moist, I use ultra-fine fogger nozzles linked to a balance-arm humidistat. These come on several times daily in summer, reducing to a few minutes once or twice weekly in winter. This keeps the humidity generally above 80%, and two fans operate continually for good air flow around the plants.

### Containers and Potting mixes

The dense, clump-forming habit of most *Dracula* species makes them ideal for pot culture. However, the descendent flower stems of many species mean that net pots, wire baskets or slatted wooden baskets are required so that flower spikes can grow down through the potting medium and emerge through the sides or bottom of the pot or basket. Several species that have more or less erect flowering stems (eg. *D. berthae*, *D. cochliops*, *D. gigas*, *D. robledo-rum*) can be grown in standard shallow plastic pots, while a few

Above left: *Dracula simia*. Below left: *Dracula tubeana*.  
Below: *Dracula vampira*.





species such as *D. portillae* and *D. trichroma* have ascending rhizomes, and can be grown effectively on mounts.

Sphagnum moss is the potting medium of choice for these orchids. In net pots, wire and wooden baskets, I use sphagnum without any additives, packed in firmly enough to hold the plant in place, but not jammed in. Plants in solid plastic pots are grown in a mix of styrofoam chips and sphagnum moss, in equal parts, to ensure good drainage and air flow around the roots. Lacking pseudobulbs, plants need to be kept moist, and are watered individually when the sphagnum moss starts to dry out. I try and use rain water where possible. The sphagnum is never left to dry out completely, as once this happens it sheds rather than absorbs water, and must be soaked to re-wet the moss. For *Dracula* grown on mounts, Black tree-fern is the best material, as it retains more water than hardwood or cork mounts.

Some growers use a mixture of equal parts pine bark or wood chips, styrofoam chips and sphagnum, and this mix works well, although root growth is not as pronounced as in pure sphagnum. Under good growing conditions, *Dracula* are very forgiving plants. I have seen plants with a mass of leaves and lots of flowers and spikes but, when knocked out of the pot, have had very poor root growth, seemingly without detriment to the plant.

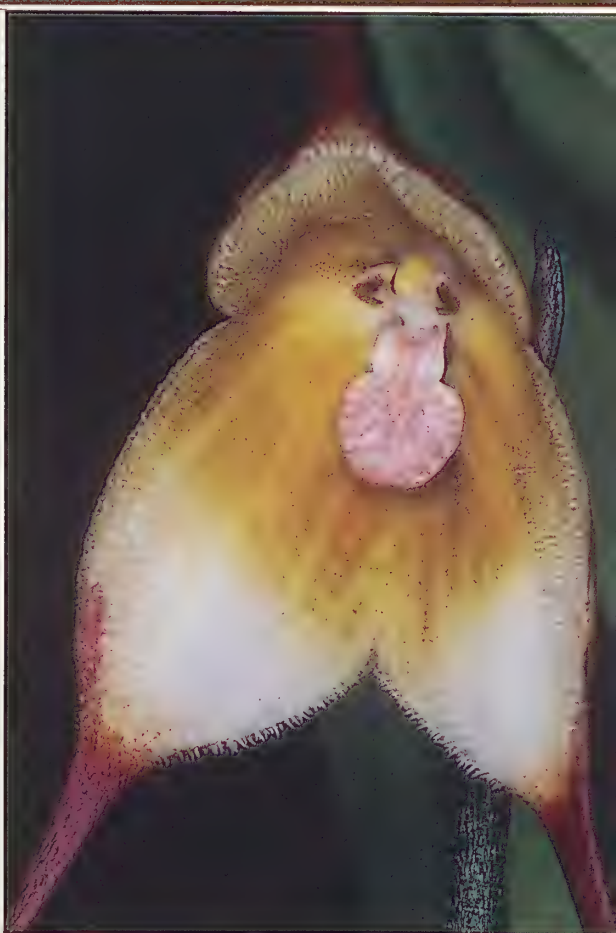
Several species I have grown from flask have been slow to start and taken 3-4 years before first flowering. Once they get to a reasonable size, they can grow quite quickly. If you can provide good cultural conditions, *Dracula* grow well and you can easily double the size of your plant in a year.

#### Fertilising

Fertilising is somewhat problemetical when growing plants in sphagnum moss. I use several different orchid and plant fertilis-

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Above right: *Dracula verticulosa*.  
Below: *Dracula mopsus*.





ers, at weak dilution rates (generally about 20% or less of the manufacturer's recommended dose) and spray this over the leaves with a fine mist pump sprayer. About two hours later I thoroughly water every pot to rinse any trace of fertiliser out of the sphagnum, to avoid excessive algae or moss growth. Fertilising is carried out once or twice a month from March to November, during the plant's most vigorous growing period, with no application over summer when plant growth slows down.

### Light

*Dracula* are generally shade-loving plants and will grow well in very shaded conditions, but need moderate light levels to flower well. My orchid house is constructed from clear polycarbonate and lined with Marix® cloth, which provides moderate, diffuse light throughout the house. In summer a layer of shade cloth is placed over the house, and my plants are placed at bench height or hung below benches to reduce light and temperature. As Melbourne winters tend to be gloomy, the shade cloth is removed, and plants are hung about 50 cm below the roof to maximise the available light for improved flowering.

### Identification

One of the problems facing growers of *Dracula* is correctly identifying their plants, and with an increase in their popularity has come a proliferation of incorrect names. Some species can be difficult to identify, especially those in the *D. wallisii* / *chiroptera*, *D. houtteana* / *psittacina* and *D. vinacea* / *rezeckiana* groups. Often, the mislabeling stems from an imported plant that is incorrectly named, subsequently divided and provided to other growers, with the wrong name being perpetuated. It also seems from the literature that a number of hybrids have 'spontaneously' arisen in big nursery collections of *Dracula*, and

Below: *Dracula vespertilio*.



Above: *Dracula vlad-tepes*

these may also have found their way into cultivation. I have at least three plants in my collection that I cannot correctly identify, all division of imported plants. Fortunately, several publications in recent years have assisted growers to correctly identify many species in the genus. The best of these is the special feature in the *Orchid Digest* by Johan and Claire Hermans, with excellent colour photos of around 100 species. This publication is a must for anyone growing this genus and wanting to identify their plants. The mighty portfolio of volumes comprising the *Thesaurus Dracularum* by Luer and Escobar has truly magnificent illustrations of the species, and is a beautiful work of art in its own right.

*Dracula* is a splendid group of orchids to grow, and well worth the extra effort required to maintain the plants in top condition. Their enchanting, dramatic flowers are a constant source of delight for me and wonderment for visitors to my orchid house. I never cease to be amazed at the evolutionary processes that have lead to the appearance of these magnificent species.

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# 15th Australian Orchid Conference

Burnie, Tasmania. 11-15 October 2000



*Masdevallia* Copper Angel 'Highland'



The Burnie Orchid Society did Tasmania proud with their hosting of the recent Australian Orchid Conference. Congratulations to Conference Chairman Jeff Roles and his team. Most of the plants (and subsequent prize-winners) in the show were locally grown. This was due to the logistical problems in transporting plants from other parts of Australia plus the fact that the main flowering season had passed. But then again the show schedule was designed (and quite rightly) for the local growers.

Grand Champion of the Conference Show (and Champion *Pleurothallidinae*) went to *Masdevallia* Copper Angel 'Highland' AM/AOC, superbly grown by Preston and Vivienne Ling of Burnie. It must have had close to 50 orange blooms with an overlay of purple, which appeared to change with the angle of light reflecting off the flowers. This is a primary hybrid between *M. triangularis* and *M. veitchiana*. I have visited the Ling's collection a couple of times and they certainly have the ideal climate to grow and flower these montane South American treasures to perfection. Their *Masdevallia ignea* 'Orange Fantasy' continues to impress.

Reserve Champion (and Champion *Paphiopedilum*) went to Royale Orchids with a nicely grown (and well travelled) plant of the aptly named *Paphiopedilum armeniacum* 'Dizzy Queen' AM/AOC. The specific name means apricot coloured.

Peter and Christine Mies from Launceston won Champion Cymbidium with the increasingly popular *C. Valley Splash* 'Awesome'. This would be my favourite "cymbid" in the pastel tones. Their *C. Bulbarrow* 'Friar Tuck' also won its section.

The Most Pre-eminent Entry went to Terry Rigney's huge plant of the species *Cymbidium lowianum*. What a plant! It

took four people to lift it and a major operation to get it to the show.

Other champions were;

Australian Native Species, *Dendrobium speciosum* (G & J Hall)

Australian Native Hybrid, *Dockrillia* Fay Moore (Barry Dudman)

*Cattleya* Alliance, *Blc.* Lyn Spencer 'Cha' (D & P Harmer)

*Oncidium* Alliance, *Oda.* Devon Flash (K & Y Henderson)

*Phalaenopsis*, *Phalaenopsis amabilis* 'Howzat' (Stuart Heyden)

*Vanda* Alliance, *Ascocenda* Malibu 'Aristocrat' (D & D McAlister)

*Dendrobium*, *Dendrobium* Yukidaruma 'King' (F. Bates)

Other Genera, *Coelogyne mooreana* 'Brockhurst' (P & H Jackson)

There were also some fine displays, from Tasmanian growers and societies, plus a number from interstate. The overall Champion display was one by Royale Orchids who carted live plants and cut flowers from Peats Ridge, NSW. Devonport members Alan and Ada Kelly won the best individual large display with a varied display featuring lots of well-grown quality plants.

The highlight of the lecture programme was the three top class speakers from California, USA. Bob Hamilton spoke on his beloved *Odontoglossums*, from the species and early hybrids right up to the latest advances in their breeding. John



*Paphiopedilum armeniacum* 'Dizzy Queen'





*Cymbidium Valley Splash* 'Awesome'



*Cymbidium Bulbarrow* 'Friar Tuck'



Display by Alan and Ada Kelly, Devonport.

Leathers spoke with conviction on *Masdevallia* and *Dracula* species. Ron Parsons then entertained the audience with his presentation on the *Pleurothallid* alliance with breathtaking photography. Actually the quality of the photography from all of the lecturers was of the highest standard I have witnessed at an orchid conference.

It was a good idea to have the lectures of an evening, even if it did get a bit late. This enabled registrants to play tourist during the day. There is so much to see and do in Tasmania, and I played host to my American friends and took in many sights. The tulips were superb at Table Cape; we had a great drive to Cradle Mountain – where it snowed heavily on arrival! The more hardy (or stupid?) of us did go for a bit of a walk. Well snow is still a novelty for some of us! We also spent time visiting Rhododendron gardens, Waratah, Rocky Cape National Park (on a number of occasions, where we found a number of terres-

trial orchids in bloom, including two “spider” *Caladenia* species) and looking at the Fairy Penguins on dusk just down the road from our motel in Burnie. Unfortunately time and other commitments prevented me from visiting many of my orchid growing friends this trip, but I will be back.

It's a real shame that so many of the local growers boycotted the lecture programme and the conference dinner for their own reasons. At least many supported the show with flowering plants (But then again there was good prize money up for grabs, plus the prestige.) Regrettably, the majority of registrants were from “the mainland”, yet the lecture topics and speakers were selected primarily for the Tasmanian climate. They lost a golden opportunity. AOC conferences are special events, and perhaps they forgot it would be a long time before there is another one south of Bass Strait.

David P Banks  
dpbanks@ozemail.com.au



The visiting American lecturers, Bob Hamilton, John Leathers and Ron Parsons with Grand Champion local growers Preston & Vivienne Ling.





*Cymbidium Memoria Andy Warhol 'Bridget'*



*Cymbidium Hot Port 'Wiri'*

# Orchid Expo 2000

Hamilton, New Zealand. 3-11 September 2000

**T**his was clearly New Zealand's largest orchid exhibition since the World Orchid Conference held in Auckland a decade ago. There was an outstanding number and variety of flowering orchids on display, with many of them grown to specimen size.

The lecture programme featured two Americans in Howard Liebman and Milton Carpenter (who unfortunately had to leave before the Conference dinner), local NZ native orchid photographer Eric Scanlen, with Graham Guest and myself being the Australian speakers.

It was a tribute to the efforts of Margaret Liddell and her organising committee that other specialist plant groups were invited to participate in this venture. This draws "the net" even wider in the quest to further promote this hobby. There was floral art, cake decorating (incorporating orchids), Camellia displays and what was the finest display I have ever seen of choice daffodils. The variety, number and quality were breathtaking. At times like this I wish I had

more land (and a cooler climate) to grow these bulbs.

Grand Champion of the Show went to *Cymbidium Memoria Andy Warhol 'Bridget'* owned by A R Napper. This is an outstanding hybrid made by Andy Easton during his time at Geyserland Orchids and registered in 1996. Its breeding is just over 50% *C. parishii* with major influences from *C. insigne* and the

Australian *C. madidum*. For the record, it was also my pick for the top prize!

Reserve Champion went to noted cymbidium grower and hybridiser Ray Dix with his plant of *Cymbidium Hot Port 'Wiri'*. This is a hybrid made and registered by Ray from the mating of *C. Hot Prime* and *C. Yowie Flame*. It was in his display, which solely featured quality red cymbidiums.

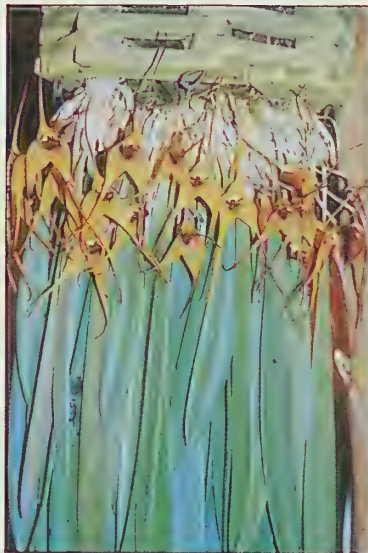


"redcymys" display by Ray Dix





*Dendrobium speciosum*



*Masdevallia caesia* 'Golden Cascade'



*Pleione formosana* 'Cutie'



*Dendrochilum glumaceum*

Grahame Leafburg from Auckland won best *Dendrobium* with a fine clone of the type form of *Dendrobium speciosum*. Grahame is a frequent visitor to Sydney and often goes home with a number of flasks to add to his impressive collection. He has done a lot to promote Australian native orchids on the North Island.

Well-known New Zealand orchid icon George Fuller from New Plymouth featured in the prizes as expected. George won the Best *Pleurothallid* Alliance with his perennial pendant growing *Masdevallia caesia* 'Golden Cascade' whilst his *Pleione formosana* 'Cutie' won first place in the *Pleione* section.

As I mentioned earlier, many of the display plants had been grown into specimen size. I was particularly impressed with the many fine plants of the Philippine *Dendrochilum glumaceum* exhibited. One of these, owned by A. Gillan, was the largest example I have seen of this variable species. Another fine specimen was *Laelia harpophylla* from the fine exotic species orchid display by L & R Orchids.

We don't see many of the deciduous *Calanthe* species or hybrids in Australia. In New Zealand I saw about six or seven different species in cultivation as well as a few hybrids. Ken Isaac's well-grown and flowered golden *Calanthe* Kawakami was an eye-catching plant. These are very attractive plants and I am sure would become popular quickly if and when plants become available. In parts of New Zealand, some are even grown as garden plants in similar conditions to what hostas require.

There were numerous displays at Expo 2000, but three stood out for me due to their originality. With my interest in volcanoes, how could I go past the Taranaki Orchid Society display? At the back of the display rose the majestic Mt. Taranaki (apparently you are not allowed to call it Mt. Egmont anymore!). I saw this briefly on set-up day, as well as during judging the following day. However, it wasn't until the next day that we were treated to the "real Mt. Taranaki". This model actually started erupting, with volcanic noises, smoke and even a glowing (with electronics) lava flow running through the display! Apparently George Fuller was behind this one as well. I am not sure how they did it, but apparently underneath the mountain were parts of vacuum cleaners, microwave ovens and a stereo! By the way, the orchids were also very nice, once you saw them after an "erup-





*Calanthe Kawakami 'Theodora'*



*Laelia harpophylla 'L & R'*

tion" and the "ash cloud" had passed!

I'm still not sure who was behind the "Bugga" display, as it was obviously quickly dubbed. A parody of the infamous TV commercial, it featured a vehicle after backing into a glasshouse. You guessed it; all the glass has been reduced to fragments on the ground, with our trusted canine friend uttering that humorous word "Bugga!" At least you could easily peek into the frame of the glasshouse to see what was in flower.

Great originality was shown by the members of the Otago Orchid Club, who had to transport their plants to Hamilton from Dunedin on the South Island. With keen club members and rugby followers in Alf & Carol Garry and Graham & Jan Letts, what else would you expect? It showed a rugby match, with most of the orchids being the crowd. Both "sides" consisted of *Phalaenopsis* hybrids (pink one side, white the other) with team colours around the pots. The referee, a *Paphiopedilum* hybrid (which I thought had a distinct lean towards the Otago Highlanders) was in white – supposedly to represent impartiality. There was even a scoreboard!

I would particularly like to thank Joy Wray, who organised and promoted my lecture tour throughout New Zealand after the Expo and the numerous friends that hosted Louanne and I during our three weeks in the land of the long white cloud. The hospitality was first class. 📧

David P Banks  
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Display by Taranaki Orchid Society



"Bugga!" display.



Otago Orchid Club display.



# Growing *Euchile citrina*

Text and photographs by David P. Banks

The generic name *Euchile* probably does not mean a lot to many orchidists. The respected American Dr. Carl Withner only proposed it as a genus in 1998, in Volume 5 of his series *The Cattleyas and Their Relatives*. Prior to this, Robert Dressler and Glenn Pollard created the section *Euchile*, within the broad genus *Encyclia*. *Euchile citrina*, and its sister species *Euchile mariae* are both endemic to Mexico and are the only two members of this genus. *Euchile* means "beautiful labellum", an outstanding feature of both species.

*Euchile citrina* is a spectacular pendent-growing epiphytic species, with a reputation for being notoriously difficult to successfully cultivate. It was well known in horticulture by various synonyms, including *Cattleya citrina*, *Epidendrum citrinum* and until recently, *Encyclia citrina*.

*Euchile citrina*, with its bright yellow glossy blooms has been called the "daffodil orchid" or "tulip orchid". The flowers have a strong pleasant fragrance, a lot like orange blossom, but certainly a citrus smell, hence the name *citrina*. Usually only one flower is produced, yet strong plants will carry twin blooms.

To quote Withner (1998); "The outstanding and unique feature of this species is that the plants and flowers hang upside down from the trunks and large branches of oak trees in rather dry, open and cool forest environments at 1300 to 2200 metres elevation." Here we get some clues to its cultivation requirements. Obviously it would not appreciate being grown "upright" in a pot as it wants to grow downwards, it would prefer to be mounted on a substrate similar to the mature oaks, it would certainly experience drying out at times, good air circulation would be a prerequisite and it like cool temperatures.

Almost two decades ago, we bought a couple of very healthy plants of this species from Bob Deane, who used to own a great nursery at Dural. Dad and I use to regularly visit Deane's Nursery, seeking out odd species – both native and exotic. The glasshouses were a Pandora's Box of interesting plants. These were mounted on black treefern and looked very good. Anyhow, we grew them with our other orchids and every year the leading pseudobulb got smaller and smaller, til the plant just faded away. I know the same thing happened to other growers. So, we gave up on this orchid... for the time being anyway!

In 1997, on my first visit to the USA, I saw a batch of recently collected plants at a Texan nursery appropriately called "It's a Jungle". They were husky plants, but could I grow them once I returned home (and



*Euchile citrina* 'Louanne' HCC/AOC-NSW 1999



Close-up of *Euchile citrina* 'Louanne' HCC/AOC-NSW 1999



after the added stress of gassing and quarantine)? Temptation got the better of me and I selected three nice looking plants and purchased these with a number of other miscellaneous species.

On that trip, I was travelling for five weeks over most of the USA. I physically couldn't carry all of these plants I was acquiring with me all the time. Plan B came into play. In California, I had stayed with the delightful Dorothy Stephenson, an icon in the San Francisco Bay area. In her early 80's, she was still full of energy, enthusiasm and knowledge on species orchids, a great lady who I still see on my visits across the Pacific. Anyhow, since San Francisco would be my last stop before returning to Sydney, I arranged to have my plants (from all parts of the USA) sent to Dorothy's. I know she took great delight in opening the boxes to see what I had acquired.

When I was back at Dorothy's home, she singled out these "citrinas" and bluntly asked me if I knew how to grow them. In reality, I didn't! She had seen the species growing in the wild in Mexico and emphasised the seasonal changes that happen within its habitat. Basically it revolved around a cool dry season of about four months, followed by a warmer season with consistent moisture and rainfall.

I grow my plants on generous slabs of virgin cork; to somewhat replicate the bark of oak trees. The plants were tied on (facing downwards of course) with the slabs hung vertically. This species is dormant during the cooler months. From Anzac Day (25th April) to Rugby League Grand Final Day (mid-September) my plants hang in my fibreglass house, under 50% shade, and are not watered at all. This is the key to my success. At half time during the footy grand final, I move the plants into my shadehouse, where they thrive under 70% shade. They start vigorous root growth and then bloom in late October to November. The flowers last for almost a month. They are watered and misted frequently in the shadehouse, until the end of April when they make their trek back to the fibreglass house.

By the way, I follow the same cultural practiced for mature plants of the "upright growing" *Euchile mariae*, only variation is that the slabs are basically positioned in a horizontal manner at about 45°. Smaller plants are grown in pots in a pine bark/gravel mix.

As a footnote, in 1999 one of my plants, the cultivar 'Louanne' received a Highly Commended Certificate from the OSNSW and AOC. In February 2000, I again met Carl Withner, this time at an AOS judges meeting in Washington State. I showed him the slides of my plant and he said that a clone such as that would get a First Class Certificate in the USA. Well there you go!

Plants grown and photographed by the author apart from slide of *Euchile mariae* by David Titmuss.

David P. Banks  
Seven Hills, NSW

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*Euchile mariae*



Three flowering clones of *Euchile citrina*

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# *Dendrobium chalmersii* F. Muell.

*D. chalmersii* was described by Ferdinand Mueller in 1882. It seems that the specimen consisted of only a few dried flowers and he was able to provide very little information on locality or morphology. In 1884 Mueller described *D. cincinnatum* from a plant growing in the garden of the Acclimatisation Society in Brisbane. He gave the locality as “south eastern New Guinea” and provided a better description. This species is now generally regarded as a synonym of *D. chalmersii*, although Baker and Baker (1996) treat

them as separate species.

The only definite record of this species in the literature, apart from the type, appears to be by Andrée Millar on the islands of Milne Bay in eastern New Guinea, although Andrée mentions that there may be collections from Irian Jaya. She recorded it growing at sea level on *Calophyllum inophyllum* trees at Wakaiuna on Normanby Island. It is exposed to strong coastal winds in an area that is hot and steamy with year-round high temperatures and humidity.

The plants of this attractive epiphyte look like a rather small member of the section *Spatulata* with leafy pseudobulbs slightly swollen at the base and twisted petals and lateral sepals. The lowland coastal habitat also fits, however a closer look will reveal a moveable lip and some other anomalies that suggest it does not belong in *Spatulata*. It is placed in the section *Trachyrhizum*, a small section of about 6 to 9 species in total. This section is centred in New Guinea, with one species extending to New Caledonia (*D. finetianum*) and another to north-east Australia (*D. agrostophyllum*). Most species (*D. chalmersii* is the exception) come from mountainous habitats around 1000 metres altitude. In plant habit this section resembles section *Spatulata*, but also has some links to section *Distichophyllum*. The flowers have a highly moveable lip that is deeply bifid and a spur-like projection at the base of the lip. The name “trachyrhizum” comes from the rough or warty nature of the roots a feature that is lacking in *D. chalmersii* and *D. agrostophyllum*. Brieger considered that *Trachyrhizum* should be elevated to generic status with *D. chalmersii* as the type.

The pseudobulbs are light brown to yellow and 40 to 100 cm long, with a swollen basal section about 1.2 cm diameter, narrowing gradually to a slender apical part with leaves about 10 cm long and 3 cm broad in 2 ranks. The flowers are about 3 cm long and are borne in short lateral inflorescences of 6 to 12 flowers, from the upper nodes on leafy and leafless stems. They are initially white, but tend to develop a cream tinge as they age. The flowers last about 2 to 3 weeks and are strongly fragrant, although Mueller described the flowers as “inodorous”. Flowering is in winter and spring in tropical Queensland.

Several plants are in cultivation in north and southeast Queensland, but I have not been able to trace their origin. This species requires warm year-round conditions, but will tolerate a few nights with temperatures down to 7°C or slightly lower, but should be kept out of cold winds. In southeast Queensland and further south a glasshouse is recommended, but in the tropics it does well in an open orchid shadehouse. It is best grown in bright filtered light and high humidity, but with good air movement, and with year-round





watering. The pseudobulbs are well spaced on the rhizome and therefore the plants need room to grow in a large pot. A standard well-drained mixture such as bark is suitable. I have not tried slab culture, but it would probably be successful as long as the plants are kept moist.

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# *Dendrobium auriculatum* and *Dendrobium papilio*

by Jim Cootes and David P. Banks



*Dendrobium auriculatum*



*Dendrobium papilio*

**T**he purpose of this occasional series of articles is to clarify the identity and highlight the differences between commonly confused orchid species.

It has always been a constant source of annoyance to go out and spend your hard-earned money (does the recently introduced GST make it 10% more annoying?), on a particular orchid species, only to have the plant subsequently bloom and not match what the label says. This frequently happens with freshly imported plants, as many taxa are very difficult to identify out of flower. However, remember there is always the chance of obtaining something very rare or even new if you are lucky, so don't blame the nurserymen! However, where possible, the identification of your plant should be verified on blooming, otherwise the problem will magnify once divisions and/or seedlings are subsequently distributed.

Most of these orchids can be readily identified, using a wide range of orchid literature. Some of the most useful are the regional floras and the various published

monographs. However, some parts of the world do not have an up-to-date account of their orchid flora, such as Sulawesi, Sumatra and even New Guinea. In the Americas there are still countless undescribed taxa within the *Pleurothallidinae*.

#### *Dendrobium auriculatum* Ames and Quis.

Another Philippine endemic, this is the most commonly seen of these two species in Australian collections. It is invariably imported and passed off as *Dendrobium papilio* and is usually labelled as that species.

#### *Dendrobium papilio* Loher

We have only seen this species twice in the Philippines. It is quite rare in its natural habitat and seldom seen in cultivation at this stage.

The most important distinguishing features between these two species are:

#### *Dendrobium auriculatum*

The pseudobulbs never branch.

Flowers are milky white.  
Labellum has greenish yellow base.  
Blossoms about 4 cm in diameter.  
The mentum is rounded at the tip.

#### *Dendrobium papilio*

The pseudobulbs frequently branch.  
Flowers are pure, pristine white.  
Labellum has purple markings in lines.  
Blossoms about 6 cm in diameter.  
The mentum has a small pimple-like tip.

Both of these species are easy to grow and are attractive additions to any species orchid collection as long as they are kept moist, with a winter minimum of 6°C whilst trying to keep the plants under 30°C during summer. Photos by David Titmuss, both plants grown by David Banks, Hills District Orchids.

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David P. Banks,  
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- ROB68 P. Starchild 'Nice n Creamy' x Wellesleyanum 'Golden'  
*Large yellow Brachys with extra round shape.*
- JR49 P. S. Gratrix (bellatulum 'Red Blush' x leucochilum 'Cream Saucer')  
*Large flowers with very heavy chocolate markings.*
- JR64 P. Francisco Freire (Sukhakulii 'Z2528' x leucochilum 'Omelette')  
*Cream flowers with broad spotted petals.*
- AEP393 P. Somers Isles 'Irish Lass' x Holdenii 'Geyserland' 4n  
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*Similar results to the above.*
- HH756 Oda. Durham City 'Unicorn Picotee' HCC/AOS x Oda. Aviewood 'Hawk Hill' FCC/AOS  
*Large traditional Odonts, Pinks with pretty picotee edging.*
- HH758 Milt. Xenia 4n (M. Bluntii 4n x clowesii 'Rodeo' 4n)  
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# Internet Orchid Species Photo Encyclopaedia

by Joy Pfahl

**H**ave you ever had species orchid that you just couldn't find any information on? If you are like me, it is close to half of the plants I have! Most often it is because the wrong name [or sometimes even the currently accepted name] is on the tag. Orchid names through the years have evolved for many reasons, but for those of us that grow the orchids, the name in truth does not matter, as long as we are able to find out pertinent information about the plant that we are growing, and as photo. I do not profess that the encyclopaedia is taxonomically perfect, far from it, but it is a handy reference to get to the information that is available on your orchid species, right name or not.

The Internet Orchid Species Photo Encyclopaedia solves this age-old problem. All orchid names, even the synonyms are in alphabetical order and the text directs you to the name in the Encyclopaedia where the pertinent information can be found about your plant. There are almost 3000 orchid species and over 400 genera represented, that come from every corner of the globe and from all four of the orchid climates, hot, warm, cool and cold. When you locate the information on your plant there will be a photo link to see what your orchid species should look like. This site has a photo for each species represented. These quality photos have been contributed by over 80 orchidists (including AOR

Editor, David P. Banks) from around the world and without their help, this site would not be as extensive.

After the photo you will find icons that clearly represent the orchid's temperature, sun requirements, and if the flower has a fragrance. There is also information on the geographical location, altitude, type of habitat, rain patterns, bloom times and general plant culture. There are plants that have pictures, but do not have much information, but that also is a good reason to visit this site as it is growing every day and new information is being added as it becomes available. The internet encyclopaedia is interactive in the sense that you can contribute any information that you have encountered and it can be added to that species description at any time. In this way the encyclopaedia is improving daily, because I am dedicated to this project full time.

The site has hundreds of beautiful photographs taken by orchidists worldwide, but for the same reasons that the information can be changed in the site, so too can the photos. If you have a better photo, or one that is more representative of the species for identification purposes, then it can be added to the page. Even better are contributions of photographs for species I don't have depicted.

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flowering through to initiation of flower spikes. Young  
and developing orchids should be fed regularly the  
whole year. The high nitrogen stimulates plant growth  
and plant vigour. Packed in 500g and 3kg units. Periodic  
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AOR 037



# O.C.S.A. 2000 Spring Show

The annual spring show presented by the Orchid Club of South Australia inc. was staged in the Centennial Hall at Wayville Showgrounds, during the Royal Show and was held from Friday 1st through 8th September. It was another triumph for the society, notching up an unbroken run of 16 successive years.

This was staged similarly to last year's magnificent presentation, which saw such a striking departure from previous years. As usual the display areas were outlined with new house-bricks but the "mounds" were somewhat lower than last year. The inclusion of a large pond complete with a fountain created interest and provided welcome humidity to the hall during the show.

Under the supervision of Mr Kees Van Driel, a group of folk from the Gawler College of TAFE constructed the vehicle for the show, using 750 pallets, 500 cubic metres of sawdust and 1300 square metres of turf culminating in flowing lines as a display base for the exhibition.

Well done for a job well done!

The show opening night on 31st August was well attended and saw Mr Walter Duncan, Chair of the Horticultural Committee and Treasurer of the R.A.H.S. Council, whilst declaring the show open congratulated the society on another magnificent presentation and expressed great pleasure at the ongoing co-operation between the two bodies. Subsequently he presented the following perpetual trophies: Max Clayton Memorial Trophy, *Paphiopedilum armeniacum* 'Dee Pee' was won by David and Pat Harmer who also won the Frank de Rose shield with *Blc.* Sylvia Fry 'Supreme'. The Advertiser Tray was awarded to *Cymbidium* Valley Zenith 'Concorde' owned by Maurice Martin.

The major prize winners were as follows:-

Champion Orchid Hobby Growers – *Dendrochilum filiforme* exhibited by Alan and Doreen Garner, a fine variety with 27 pendulous racemes, also won Champion Open Division, Champion Other Genera and Champion Species. A splendid effort. Champion Orchid Commercial Growers was won by Johnston Orchids with the consistent winner the white *Phalaenopsis* Hermosa 'Highbury', which keeps on winning. A classic variety.

Consistent winner Bruce Mules showed a lovely, good coloured *Dendrobium* Elegant Heart 'Corrella' to win Champion First Division. Champion Second Division and Champion Specimen Orchid was presented by Malcolm and Gay Hall being *Cymbidium* Marilyn Levy 'Lisa', an attractive variety also winner of Champion Intermediate *Cymbidium*.

Maurice Martin's *Cymbidium* Valley Zenith 'Concorde' was Champion Standard *Cymbidium*, an excellent flowering of this classic orchid, whilst Hugh Grund again showed an old timer, *Cymbidium* Ruby Eyes 'Red Baron' to win Champion Miniature *Cymbidium*.

Champion Hobby Growers Display was a splendid effort from Ros and Tom Fitzgerald who repeated last year's win. Splendidly presented and finished, the display featured three large *Dendrobium* Bardo Rose plants, as a cen-



Champion Orchid (Hobby Grower) *Dendrochilum cobbianum* 'Golden Grain' (photo Anne Sorrelle)

trepiece, augmented by quality cymbidiums and mixed genera. The polish and finish of this display was outstanding.

The display by Murray Bridge and District Orchid Club gained a Special Award for an Affiliated Society Display, a well presented range of quality and variety.

*Dendrobium* Elegant Heart 'Corrella' was nominated for the Ira Butler Trophy with *Dendrobium speciosum* ssp. *grandiflorum* being nominated for the Bill Murdock Trophy – a splendid effort by Bruce Mules.

*Dendrochilum filiforme* owned by Alan and Doreen Garner achieved an unusual double from the O.C.S.A. judging panel, a well deserved High Class Certificate and a Cultural Certificate.

In retrospect a wonderful show, quality, colour and variety presented in an ongoing orchid garden setting. Where can this format be improved? Well done O.C.S.A. and all concerned.

Fred Jones  
Five Dock N.S.W.

## Stimulated Growth of Orchids

by Robert McFarlane

Over the past two years I have noticed a marked improvement in the growth of leaves and pseudobulbs on my exotic orchids, because of stimulating the growth with water and fertiliser under the leaves.

Over summer these past two years, I have pushed water into the orchid mixes quite heavily. However, I believe it was the water and liquid fertiliser sprayed under the leaves that really pushed the plants along. The stomata under the leaves are quite receptive to this feeding on exotic orchids. The noticeable difference is pseudobulbs and leaves, two thirds bigger in size when treated this way. This year I have been watering under the leaves on the exotics and can see a marked improvement in leaf size and pseudobulb size.

I thought watering the roots heavily over summer was the answer. Maybe this is the case with the cymbidiums but with the exotics I seem to think otherwise. Since introducing this system of watering and fertilising my exotic

orchids under the leaves, the flowering has increased too.

One particular orchid had been a small fry for years, then this year with planned watering and fertilising under the leaves, the pseudobulbs and leaves increased two thirds in size sending up one spike. Years have gone by with no spikes previously and only runt pseudobulbs. This orchid was *Laelia anceps* 'Chamberlains'.

Many doubters would say this is not so, but other exotic orchids in my collection that were not watered this way have not grown as big and strong. I have not experimented with watering and feeding under the leaves of cymbidiums, but it will be interesting to see if they respond the same way.

To conclude, I believe that heavy watering with liquid fertiliser applied under the leaves of orchids in spring, summer and autumn increases width and length of leaves also the size of pseudobulbs.

13 The Circuit  
Lilydale, Victoria 3140.



## Attention AOR readers and Orchid Societies

"This and That" is a regular feature of the Australian Orchid Review and readers and Orchid Societies are invited to contribute any small news items of interest to Orchid lovers.

The deadline for items can be found on page 3.

Address all correspondence to the Editor: "This and That", Australian Orchid Review, 14 McGill Street, Lewisham, NSW 2049.

## Back to Beautiful Bowen by the Beach

Come to Bowen in June 2001 for the 36th Tropical Queensland Orchid Council conference.

Bowen is known as the Climate Capital of Queensland, with southern tourist spending up to three months each year here.

There are beautiful beaches all round us and farming and grazing in the hinterland. Murals adorn many of our buildings depicting the history of our town. Bowen was the first settlement north of Brisbane.

Planning for our conference is well under way and we intend to make it a weekend to remember with our best bush houses and gardens to visit. We are planning a visit to a working small crops farm and packing shed.

As June is the height of the tourist

season here we would urge all interested in coming to Bowen to book your accommodation early.

For all information please call the conference secretary, Mrs Lynn Smith, P.O. Box 383, Bowen 4805, or telephone 07 4785 2256.



## Change of Date

The 2001 South and West Regional Conference has been changed to September 29th and 30th 2001 and will be held at Batemans Bay, NSW. The conference is hosted by the Eurobodalla Orchid Club.

Enquiries: Secretary, 343 South Head Road, Moruya Heads 2537. Telephone and facsimile 02 4474 2087.



## Back-Cutting Orchids

by Maurie Black

**B**ack-cutting is a method of inducing older dormant eyes into active growth, instead of just having the plant continue growing in just one direction. It is a method of increasing the flowering potential and creating new plants identical to the parent plant. The method can be applied to many genera of orchids, but for the purposes of explanation, I will deal with cattleyas because they have all the requirements to suit the process.

First, the plant has a rhizome between the pseudobulbs, as opposed to say, cymbidiums. cattleyas, as a general rule grow a new seasons pseudobulb from the base of the previous growth, which hopefully flowered the previous year. This is described as 'sympodial growth' as opposed to 'monopodial growth', like vandas, which grow straight up with no other branching except, occasionally, one or two adventitious keikis somewhere on the main trunk. And we are able to take advantage of this 'sympodial growth'.

First thing to do is to inspect the plant step by step back to the oldest bulb to establish whether there is a latent live eye on any bulb. This inspection of course, assumes that all old husks have been carefully stripped away. A live eye will be a small pointed, green bulge at the base of any pseudobulb and you must not damage it in the process of removing

the husks. One that has been established, check whether there are at least 4 pseudobulbs between the most recent one and the first live eye. This means the live eye must be on at least the fifth pseudobulb. If affirmative, decide on a spot on the rhizome which will allow the use of a scalpel or similar instrument with which to cut a notch in the rhizome, approximately three quarters of the way through, but ideally, no further. This allows a continued but restricted sap flow to keep the entire plant going. This usually shocks the new eye into action.

If you have been correct up to now, in due course you will notice the live eye become active. This new growth will lead off in a different direction from the one at the new end and quickly develop into a flowering growth. Follow through looking for live eyes further back and treat in the same manner. I cannot impress upon you sufficiently the wisdom of notching only three quarters of the way through the rhizome. The roots on the older part of the plant have long since served their purpose and the back end of the plant relies on the continuity of the sap stream for its continued health. Notching tends to shock the plant into activity, thereby adding another plant to your (or someone else's) collection.



13 Boyd Street,  
Doncaster, Vic 3108

## More on Stanhopea greerii Jenny

**I**n the first description of this species in *Australian Orchid Review* (65(3):4-7) the type was designated to be in **G** (Geneva) and in **Herb. Jenny** (herbarium of the author in Bern), since there is only one type specimen, this is not possible. So we repeat the description of *Stanhopea greerii* together with the correct designation of the type to ensure validation.

*Stanhopea wardii* similis, sed hypochilum valde longius, in medium per angulum 90° deflexum, flexus basalis laevigatis, non angulus scaber similisut in *S. wardii*; callus distinctus, infra hypochilium protrudens, in mesochilio projectus; hypochilium aurantiaco-luteum, mesochilum et epichilum album; inflorescentia multo longior ut in *S. wardii*, valde laxissima pauciflora.

Type: Peru, sin.loc., ex cult. R.Kramer, Wilton, Australia, 16.3.1995 (Kramer 500), holotype **G**, isotype **Herb. Jenny**

Other material:

Sin.loc, ex cult. Hartley (Henry Oakeley), England, photos **Herb. Jenny**

Peru, San Martin, Zepelacio, near Moyobamba, ca.1100 m, mountain forest, col. Klug No.3617 & 3684 (illustrated by Ch. Schweinfurth 1958 as *Stanhopea wardii*)

Rudolf Jenny  
Moosweg 9, 3112  
Allmendingen  
Switzerland.  
e-mail:

RJenny@compuserve.com



## MARCH/APRIL/MAY 2000 REGISTRATIONS

Supplied by the Royal Horticultural Society as International Registration Authority for Orchid Hybrids

NAME	PARENTAGE	REGISTERED BY
(O/U = Originator unknown)		
ALANGREATWOODARA Kiwi Glow	Agwa. Alan x Z. Black Pearl	R. Tucker
ARACHNOPSIS Ripple Effect	Phal. Reijiro Wakatsuki x Arach. cathartii	J.L. Fischer
ASCOCENDA Elizabeth Taylor	Ascd. John De Biase x V. Danny German	Motes
Liza Boutet	V. Krung Kavsee x Ascd. Pralor	W/Orchid
Rosemary Trane	Ascd. Fuchs Sunset x Ascd. Teerarak	R.F.Orchids
Sawita Delight	V. Fuchs Delight x Ascd. Lenachai	S.Diteeyont
Watsatee Delight	Ascd. Lenachai x V. Doctor Anek	S.Diteeyont
ASPOGLOSSUM Rusty Rooster	Odm. cervantesii x Asp. principissa	Everglades(W.Bussey)
BAKERARA Kramer Island	Bak. Chuckanut Island x Odm. reichenheimii	Everglades
BRASSIDIUM Carbean Tower	Brsdm. Golden Drop Utuado x Onc. sphacelatum	Orch.by Eli
BRASSOCATTLEYA Eva's Alma Colombiana	C. Gertrude Hausermann x Bc. Country Road	Orquideas Eva
Sister Spring Smile	Bc. Pastoral x C. High Light	Harue Ishii
BRASSOLAELOCATTLEYA All My Heart	Blc. Mishima Honor x Lc. Lake Cachuma	S.Maki
Amy Sunset	Lc. Amy Smyth x Blc. Walkiki Sunset	L.Sakzewski
Art Sound	Blc. Love Sound x C. Art Gallery	Dogashima
Canto de Esperanza	Lc. Chine x Bc. Amite Saldafia	R.Sobrinho
Cosmo-Harry	Blc. Susan Harry x C. walkeriana	Kokusai
Eva's Arte Vivo	Blc. Osiris Ghyll x Blc. Lucky Strike	Orquideas Eva
Eva's Aventura	C. violacea x Blc. Osiris Ghyll	Orquideas Eva
Eva's Caribeña	Blc. Kathy O'Malley x C. Stardust Memory	Orquideas Eva
Eva's Inspiración	Blc. Osiris Ghyll x Lc. Red Empress	Orquideas Eva
Eva's Odisea	Blc. Eva's Mystery Dancer x B. digbyana	Orquideas Eva
Eva's Sol Oscuro	Blc. Walkiki Gold x Bc. Edisto	Orquideas Eva
Ewart Lailia	Blc. Ewart McDonald x Bc. Lailia	T.Orchids
Hawaiian Dazzler	Blc. Hawaiian Rhapsody x Bc. Pamela Hetherington	Kodama
Hawaiian Dragon	C. Horace x Blc. Doctor Joe Walker	Kodama(Carmela)
Hawaiian Heat Wave	Blc. California Girl x C. walkeriana	Kodama(Orchid Center)
Hawaiian Lightning	Lc. Color Guard x Blc. Toshie Aoki	Kodama(Carmela)

NAME	PARENTAGE	REGISTERED BY
<b>BRASSOLAELOCATTLEYA</b> (continued)		
Hawaiian Super Flare	<i>B/c.</i> Hawaiian Lightning x <i>B/c.</i> Toshie Aoki	Kodama(Carmela)
Hawaiian Trend	<i>B/c.</i> Fred Stewart x C. Tiffin Belis	Kodama(Carmela)
Hawaiian Vibration	<i>B/c.</i> Hawaiian Success x <i>L.c.</i> Hyperion	Kodama
Keshin's By George	<i>L.c.</i> Ilawara x <i>B/c.</i> George King	K & E Morrison(D. & B. Littman)
Lakeland's Wonder	<i>B/c.</i> California Girl x C. Angelwalker	Byrd's(R. Takafuji)
Little Wings	<i>B/c.</i> Pastoral x <i>B/c.</i> Bouton D'Or	Harue Ishii
Manareue Sunset	<i>L.c.</i> Manareue x <i>B/c.</i> Waikiki Sunset	Orquideas Eva(O/U)
Melodia de Oro	<i>B/c.</i> Makana Gold x <i>B/c.</i> Deesse	R. Sobrino(O/U)
Natural Wonder	<i>L.c.</i> Maria Ozzella x <i>B/c.</i> Sylvia Fry	Don Massey
Osiris Ghyll	<i>B/c.</i> Osiris x <i>B/c.</i> Herons Ghyll	Orquideas Eva(O/U)
Passion	<i>L.c.</i> Geoff Telfer x <i>B/c.</i> Sylvia Fry	Bruce Larson(G.J. Williams)
Redland Ruby	<i>B/c.</i> Memoria Warren Jones x <i>B/c.</i> Debbie Dramm	L. Sakrzewski
Redland Trader	<i>L.c.</i> Bonanza Queen x <i>B/c.</i> Dream Trader	L. Sakrzewski
Redland White Out	<i>B/c.</i> Sylvia Fry x C. Lynn Spencer	L. Sakrzewski(Fame Orch.)
Small Festival	<i>B/c.</i> Languedoc x <i>B/c.</i> Ewart McDonald	Harue Ishii
Special Recognition	<i>B/c.</i> Oconee x <i>B/c.</i> Hertha Fry	Don Massey
Tzeng-Wen Queen	<i>B/c.</i> Tzeng-Wen Beauty x <i>L.c.</i> Trick or Treat	Wong Ching-Tien
<b>IBURRAGEARA</b>		
Buried Treasure	<i>Wils.</i> Bubba Mock x <i>Mldm.</i> Milton's Candy	Everglades
<b>CATAMODES</b>		
Jumbo Barbie	<i>Morm.</i> <i>badium</i> x <i>Cism.</i> <i>barbatum</i>	Jumbo Orchids
Jumbo Bingo	<i>Morm.</i> <i>maculatum</i> x <i>Cism.</i> Susan Fuchs	Jumbo Orchids
Jumbo Bow	<i>Cism.</i> Grace Dunn x <i>Morm.</i> <i>uncia</i>	Jumbo Orchids
Jumbo Explorer	<i>Ctrnds.</i> Jumbo Ruby x <i>Morm.</i> <i>badium</i>	Jumbo Orchids
Jumbo Lotus	<i>Morm.</i> <i>maculatum</i> x <i>Cism.</i> <i>pileatum</i>	Jumbo Orchids
Jumbo Stone	<i>Morm.</i> <i>badium</i> x <i>Cism.</i> <i>fimbriatum</i>	Jumbo Orchids
<b>CATANOCHEs</b>		
Jumbo Gain	<i>Cyc.</i> Jumbo Dragon x <i>Cism.</i> Susan Fuchs	Jumbo Orchids
Jumbo Plaza	<i>Cyc.</i> Jumbo Dragon x <i>Cism.</i> Orchidglade	Jumbo Orchids
Jumbo Smart	<i>Cyc.</i> Jumbo Dragon x <i>Cism.</i> <i>fimbriatum</i>	Jumbo Orchids
Jumbo Ultra	<i>Cyc.</i> Jumbo Dragon x <i>Cism.</i> <i>purum</i> †	Jumbo Orchids
<b>CATASETUM</b>		
Dragon Whiskers	<i>Cism.</i> <i>warsecwiczii</i> x <i>Cism.</i> <i>saccatum</i>	JEM
Jumbo Dream	<i>Cism.</i> <i>fimbriatum</i> x <i>Cism.</i> <i>barbatum</i>	Jumbo Orchids
Jumbo Eagle	<i>Cism.</i> <i>sanguineum</i> x <i>Cism.</i> <i>expansum</i>	Jumbo Orchids
Jumbo Grace	<i>Cism.</i> Rebecca Northern x <i>Cism.</i> Grace Dunn	Jumbo Orchids
Jumbo Onyx	<i>Cism.</i> <i>tenebrosum</i> x <i>Cism.</i> <i>saccatum</i>	Jumbo Orchids
Jumbo Pearl	<i>Cism.</i> Penang x <i>Cism.</i> <i>tenebrosum</i>	Jumbo Orchids
Jumbo Prime	<i>Cism.</i> <i>sanguineum</i> x <i>Cism.</i> Susan Fuchs	Jumbo Orchids
Magic Rose	<i>Cism.</i> White Magic x <i>Cism.</i> <i>rooseveltianum</i>	JEM
Memoria Ned Eman	<i>Cism.</i> <i>warsecwiczii</i> x <i>Cism.</i> Breckinridge Onyx	JEM
<b>CATTLEYA</b>		
Eva's Recuerdo Fugaz	<i>C.</i> Princess Belis x C. Prima Donna	Orquideas Eva
Eva's Samaritana	<i>C.</i> Princess Belis x C. <i>trianaei</i>	Orquideas Eva
Kittiphat	<i>C.</i> Queen Sirikit x C. Netrasiri Darkstar	S. Kittiphat
Spring First Song	<i>C.</i> Portia x C. Hawaiian Wedding Song	Harue Ishii
Sua Mena	<i>C.</i> <i>trianaei</i> x C. <i>violacea</i>	Orq. Sua Mena
<b>CIRRHOPETALUM</b>		
Clavis Thoms	<i>Cirr.</i> <i>lepidum</i> x <i>Cirr.</i> <i>cuttulum</i>	B. Thoms



NAME	PARENTAGE	REGISTERED BY
<b>CYCNODES</b>		
Jumbo Gold	Cyc. Jumbo Dragon x <i>Morm. maculatum</i>	Jumbo Orchids
Jumbo Joy	<i>Morm. maculatum</i> x Cyc. <i>haagii</i>	Jumbo Orchids
Jumbo Light	Cyc. Jumbo Dragon x <i>Morm. uncla</i>	Jumbo Orchids
Jumbo Micky	Cyc. Jumbo Dragon x <i>Morm. badium</i>	JEM
Masterpiece	Cyc. <i>warcewiczii</i> x <i>Morm. cogniauxii</i>	JEM
Topaz	Cyc. <i>ventricosum</i> x <i>Morm. rolfearum</i> †	
<b>*CYSELLIA (Cysl.)</b>		
Jumbo Trax	Cyc. Jumbo Dragon x <i>Asla. gigantea</i>	Jumbo Orchids
<b>CYMBIDIUM</b>		
Audrey Ann	Cym. Showgirl x Cym. Showy	E.Ellestad(N.Porter)
Cerritos Magic	Cym. Cricket x Cym. Tethys	H.Chun
Enzan Liberty	Cym. Memoria Jacqueline Oyston x Cym. Lovely Bunny	Mukoyama
Fancy Poet	Cym. Fancy Free x Cym. Poetic	Floricultura(A.Easton)
Franklin Emblem	Cym. Pebbles x Cym. Claude Pepper	L.Hu
Iolani	Cym. Fifi x Cym. Stanley Fouraker	H.Chun
Kimberley Joy	Cym. Valley Splash x Cym. Phil Cass	Kimberley Orch.
King Cass	Cym. Candy King x Cym. Phil Cass	Floricultura(A.Easton)
Las Flores	Cym. Eastern Star x Cym. Via Ambarino	M.Gregory(W.D.Bailey)
Poet John	Cym. John Gomes x Cym. Fancy Poet	Floricultura(A.Easton)
Rebecca Redden	Cym. Tropic Night x Cym. Panama Red	L.Hu
Showy	Cym. Showgirl x Cym. Ann Green	E.Ellestad(N.Porter)
Spring Candy	Cym. Promenade x Cym. Cleo Sherman	Floricultura(A.Easton)
Spring King	Cym. Spring Candy x Cym. Candy King	Floricultura(A.Easton)
Summer Gleyser	Cym. Candy Floss x Cym. Cleo Summer	Floricultura(A.Easton)
<b>DENDROBILUM</b>		
Buzz	Den. Elegant Lace x Den. Hilda Poxon	Down Under N.O.
Carol Doran	Den. Lustrous x Den. Hilda Poxon	Down Under N.O.
Gina Perlite	Den. <i>prasium</i> x Den. <i>cuthbertsonii</i>	Golden Gate
Haleahi Stripes	Den. Palolo Sunshine x Den. Mary Stripes	Hawaiian FL.Nurs.(L.Sugita)
Husmadi	Den. Ly's Pride x Den. Atakit	H.Ahmad
Ileana Colon-Carlo	Den. Pepe González x Den. Lipstick	P.González(O/U)
Mackenzie Ajimura	Den. Kristen Ann x Den. Bangkok	W.Ajimura(R.T.Fukumura)
Mari Shimizu	Den. New Wave x Den. Tsuruyo Kamekoto	K.Kamenoto
Memoria Lucy May	Den. New Horizon x Den. <i>stratiotes</i>	A.Groffen
Papatu	Den. <i>mohilanum</i> x Den. <i>cuthbertsonii</i>	D & M.Crawford
Pepe González	Den. Titan x Den. <i>lasianthera</i>	P.González(O/U)
Regina Book	Den. Barbara Izumi x Den. Makariki Blue	H.Book
Suay Delight	Den. <i>friedrichianum</i> x Den. <i>signatum</i>	T.Orchids
White Velvet	Den. Kamiya's Delight x Den. Anna Bibus	D.Stuart(O/U)
Yip Sow Yen	Den. Black Spider x Den. Port Dickson	Yip Sow Yen (Cheah Wah Sang)
<b>DEVEREUXARA</b>		
Clare Hermans	Phal. Ponce es Ponce x <i>Ascds.</i> Motes Goldpiece	Motes
Motes Samarkand	Phal. Ponce es Ponce x <i>Ascds.</i> Motes Kalahari	Motes
<b>DISA</b>		
Fashion Plate	Disa Veitchii x Disa Passion	V.Henderson
Ingrid Duminy	Disa <i>uniflora</i> x Disa Phil Scott	S & M.Cywes
Nicola Jane Bishop	Disa Marlene Cywes x Disa Phil Scott	S & M.Cywes
Phil Scott	Disa Robert Cywes x Disa <i>uniflora</i>	S & M.Cywes
Sassy	Disa Veitchii x Disa Suzy Q	V.Henderson
Torbay Ruby	Disa Carvelitch x Disa Veitchii	G.Fuller

NAME	PARENTAGE	REGISTERED BY
<b>DORTAENOPSIS</b>		
Amy Jahr	Phal. Be Glad x Dtps. Spanish Bay	H.McKinnis(Gold Country)
Bedford Little Dancer	Dtps. Little Gem Stripes x Phal. Brother Danseuse	H.Ginsberg
Brother Comet	Dtps. Taisuco Candystripe x Phal. Brother Brungor	Brother
Brother Pico Elf	Dtps. Taisuco Jewely x Dtps. Judy Valentine	Brother
Brother Red Bird	Dtps. Taida Happy King x Phal. Carmela's Pixie	Brother
Chokay	Phal. Chial Danseuse x Dtps. Okay Seven	B.Thoms(O/U)
Diana's Quest	Dtps. Quevedo x Dtps. Diana Dougan	A.Klehm
Fire King	Phal. Leucadia Fire x Dtps. King Shiang's Rose	John H.Miller
Fong-Tien's Bright Star	Dtps. King's Valentine x Dtps. Taisuco Firebird	Fong Tien O.G.
Fong-Tien's Bright Venus	Phal. Be Glad x Dtps. Mount Lip	Fong Tien O.G.
Fusheng's Glad Lip	Phal. Ever-spring King x Dtps. Happy Valentine	Fu-Sheng Huang
Fusheng's Uranus	Dtps. King Shiang's Beauty x Phal. Ever-spring King	Sogof(Fang Kung Der)
Happy Ufo	Dtps. George Vasquez x Dtps. Minho Davis	P.Lindsay
Jeanie Lindsay	Phal. Terilyn Fujitake x Dtps. King Shiang's Rose	T.Takada
Jpang Beauty	Phal. Hilo Lip x Dtps. Happy Valentine	T.Takada
Jpang Magic	Phal. Sue Ellen Burton x Dtps. Ramsden	S.Nisbet
Judith Ann Marks	Dtps. Memoria Alice Ainsworth x Phal. Cathay	Hilltop Orch.
Linda's Rosey Cheeks	Dtps. Spring Damsel x Phal. Pisgah Jubilee	Owens Orchids
Looking Pretty		(Looking Glass)
Marc-André Brassard	Phal. Voyager x Dtps. Memoria James McPherson	Orchidexpert(M.Mongson)
Matou Beauty	Phal. Matou Freed x Dtps. Houpi Beauty	Orchid Connection(O/U)
Pisgah Heart	Dtps. Taisuco Heart x Dtps. Taisuco Candystripe	Owens Orchids
Rosy Scenario	Dtps. Minho Princess x Dtps. Chokay	B.Thoms(O/U)
Ruby Triumph	Phal. Red Dream x Dtps. Inverness Firebrand	Phalactics
Scat Singer	Phal. Pluki's Pink x Dtps. Flea Flick	E.S.Wright
Sedona's Bright Eyes	Dtps. Sedona's Surprise x Phal. Hakalau Queen	Sedona
Sedona's Knight	Phal. Musashino x Dtps. Orglade's Benchmark	Sedona
Sedona's Surprise Line	Dtps. Sedona's Surprise x Phal. Line Renaud	Sedona
Sogo Berry	Dtps. Sun Jye Diamond x Phal. Zuma's Pixie	Sogo
Sogo Hill	Phal. Chingruey's Gold x Dtps. Sogo Manager	Sogo
Sogo Landy	Dtps. Taisuco Sweet x Dtps. Kung's Valentine	Sogo
Sogo Melinda	Dtps. Autumn Leaves x Phal. Sogo Lit-Angel	Sogo
Sogo Moto	Dtps. New Candy x Phal. Renaud Lip	Sogo
Sogo Nancy	Dtps. Autumn Sun x Phal. Brother Gold Miss	Sogo
Sogo Nina	Dtps. Autumn Sun x Phal. Sogo Lisa	Sogo
Sogo Pride	Phal. Brother Lawrence x Dtps. Sogo Manager	Sogo
Sogo Sweet	Phal. Brother Passat x Dtps. Sogo Manager	Sogo
Sogo Valentine	Phal. New Cinderella x Dtps. Kung's Valentine	Sogo
Taida Fantasy	Dtps. Chia Lin x Dtps. Taida City	Taida
Tenue Takada	Phal. Shiryukihime x Dtps. Zuma White Puff	T.Takada
<b>EPICATTELEYA</b>		
Kauai Pretty Girl	Epic. Nebo x Epic. Shimonishi Beauty	Yamada Nursery
Kauai's Beauty	Epic. Shimonishi Beauty x Epic. Hokulea	Yamada Nursery
Kauai's Pink	Epic. Helen's Pink x Epic. Helen Yamada	Yamada Nursery
Memoria Helen Doi	Epic. Helen's Pink x Epic. Lilian Yamada	Yamada Nursery
Miva Eloile Noire	C. <i>bowringiana</i> x Epic. <i>cochleatum</i>	Michel Vacherot
<b>EPIDENDRUM</b>		
Kauai Spots	Epic. <i>ibaguense</i> x Epic. Radicanto-Stamfordianum	Yamada Nursery
Kauai's Pride	Epic. <i>ibaguense</i> x Epic. Helen Yamada	Yamada Nursery
Kauai's Sunrise	Epic. <i>mosenii</i> x Epic. Miranda Yamada	Yamada Nursery
Kauai Super White	Epic. <i>secundum</i> x Epic. <i>ibaguense</i>	Yamada Nursery
Stamiforme	Epic. <i>umbellatum</i> x Epic. <i>stamfordianum</i>	Orch.by Eli



NAME	PARENTAGE	REGISTERED BY
<b>EPIDIACRILUM</b> Kauai's Queen	<i>Epdcm.</i> Hawaiian Queen x <i>Epi.</i> Obrienianum	Yamada Nursery
<b>EPILAELIOCATTLEYA</b> Funny Panther Julie Rosenberg	<i>Lc.</i> Angel Love x <i>Epi.</i> <i>cochleatum</i> <i>Lc.</i> Mandarin Melody x <i>Epi.</i> <i>cordigerum</i>	Kokusai R.F.Orchids (Orch. of Waianae)
<b>HAMILTONARA</b> Golden Harry	<i>Brfd.</i> Gold Star x <i>Oda.</i> Harry Baldwin	Glen.O.Across
<b>*HOULLORA (Hira.)</b> Sua Mena	<i>Gga.</i> <i>grossa</i> x $\pm$ <i>Hlt.</i> <i>vittata</i> $\dagger$	Orq.Sua Mena
<b>*JACOVIELLOARA (lcvl.)</b> Ensomondo Flora	<i>Iwan.</i> Appleblossom x <i>Epi.</i> <i>stamfordianum</i>	Ensomondo
<b>LAELIOCATTLEYA</b> Cosmo-Horace Doctor Bruce Kone Eva's Magia Colombiana Grama Ruby Great Sunset Hawaiian Renaissance Sensational Value Sunnystars Tzeng-Wen Love	<i>C.</i> Horace x <i>Lc.</i> Just Friends <i>Lc.</i> Mildred Rives x <i>Lc.</i> Startling Point <i>Lc.</i> Mildred Rives x <i>Lc.</i> Oldie's Grand <i>L.</i> <i>mantiqueirae</i> x <i>C.</i> <i>aurantiaca</i> <i>Lc.</i> Tropical Sunset x <i>Blc.</i> Great Island <i>Lc.</i> Log Cabin x <i>Lc.</i> Melody Fair <i>C.</i> Chocolate Drop x <i>L.</i> <i>anceps</i> <i>C.</i> Chicanery x <i>L.</i> <i>blumenscheinii</i> <i>Lc.</i> Puppy Love x <i>C.</i> <i>aurantiaca</i>	Kokusai K.Kone(R.Takafuji) Orquideas Eva H.Roberts(O/U) Suwada Orch. Kodama Dogashima T.Nance(O/U) Wong Ching-Tien
<b>LOWARA</b> Kesthin's Dawn	<i>Bl.</i> Westfieldensis x <i>Brls.</i> Claire Beaumont	K. & E.Morrison(O/U)
<b>LYCASTE</b> Cosmo-Powell Golden Emperor Personality	<i>Lyc.</i> Elizabeth Powell x <i>Lyc.</i> Island of Capri <i>Lyc.</i> Aphrodite x <i>Lyc.</i> Concentration <i>Lyc.</i> Memoria Bill Congleton x <i>Lyc.</i> Island of Vulcan	Kokusai Hoosier(O/U) T.Goshima
<b>MACLELLANARA</b> Black Mountain	<i>Brsdm.</i> Golden Drop Utuado x <i>Odcdm.</i> Mackenzie Mountains	Orch.by Eli
<b>MASDEVALLIA</b> Angel Candy Bright Spice Briior Jeanette Mandy Opalescent Pink Fairy Polish Petunia	<i>Masd.</i> Sunny Angel x <i>Masd.</i> Tuakau Candy <i>Masd.</i> John Leathers x <i>Masd.</i> <i>triangularis</i> <i>Masd.</i> Pichinchia x <i>Masd.</i> Sunny Angel <i>Masd.</i> <i>arnabalis</i> x <i>Masd.</i> <i>coccinea</i> <i>Masd.</i> Monarch x <i>Masd.</i> <i>chaparensis</i> <i>Masd.</i> Measuresiana x <i>Masd.</i> <i>uniflora</i> <i>Masd.</i> <i>coccinea</i> x <i>Masd.</i> <i>lamprotyria</i> <i>Masd.</i> <i>hirtzii</i> x <i>Masd.</i> <i>foetens</i> $\dagger$	Mostly Masd.(J.Schwind) D.Butter B.Milligan G.Fuller S.Male(Highland Trop.) G.Fuller R.Hull Hoosier(W.Klikunas)
<b>MILPASIA</b> Corona Dorada	<i>Mpsa.</i> <i>Milt.</i> 's Choice x <i>Milt.</i> <i>schroederiana</i>	Castle Rock Orch. (M.G.Harris)
<b>MILTONIA</b> Blushing Cloud Bouley Bay Butterfly Bay	<i>Milt.</i> Emotion x <i>Milt.</i> Soquel <i>Milt.</i> Ambre x <i>Milt.</i> Golden Butterfly <i>Milt.</i> Golden Butterfly x <i>Milt.</i> Hudson Bay	E.Carson E.Young O.F. Castle Rock Orch. (Hausermann)

NAME	PARENTAGE	REGISTERED BY
<b>MILTONIA (continued)</b> Kelly La Roque Lingwood Bay Mable McFarlane Mauli Glow Mauli Moon Mauli Sherbet Mauli Splash Red Marble Red Slippers Solar Eclipse	<i>Milt.</i> Doctor Ruth Ono x <i>Milt.</i> Cherry Red <i>Milt.</i> Gorey x <i>Milt.</i> Akagi <i>Milt.</i> April Bay x <i>Milt.</i> Lingwood <i>Milt.</i> Limelight x <i>Milt.</i> Hudson Bay <i>Milt.</i> Aysen Ono x <i>Milt.</i> Yuko Hatsui <i>Milt.</i> Aysen Ono x <i>Milt.</i> <i>santanaei</i> <i>Milt.</i> Lydia Sellen x <i>Milt.</i> Timberline <i>Milt.</i> Martin Orenstein x <i>Milt.</i> Lorene <i>Milt.</i> Emotion x <i>Milt.</i> Mrs. J. B. Crum <i>Milt.</i> Red Woodham x <i>Milt.</i> Hamburg <i>Milt.</i> Linda Marie Sellen x <i>Milt.</i> Maui Sunrise	Okika E.Young O.F. E.Carson Glen.O.Across I.Komoda I.Komoda I.Komoda E.Carson I.Komoda
<b>MONIERARA</b> Jumbo March	<i>Cimds.</i> Jumbo Ruby x <i>Cyc.</i> Chloroge	Jumbo Orchids
<b>MORMODES</b> Dragon's Delight Dragon Spots Red Dragon	<i>Morm.</i> <i>revolutum</i> x <i>Morm.</i> <i>frymirei</i> <i>Morm.</i> <i>cogniauxii</i> $\dagger$ x <i>Morm.</i> <i>sinuata</i> <i>Morm.</i> <i>horichii</i> $\dagger$ x <i>Morm.</i> <i>frymirei</i>	JEM JEM JEM
<b>ODONTODA</b> Lennox Black Merry Measure Nettie Valentine Wossner Rosequeen	<i>Oda.</i> Harrods Forever x <i>Oda.</i> Picotee <i>Oda.</i> Shelley x <i>Oda.</i> Drummer Boy <i>Oda.</i> Drummer Boy x <i>Oda.</i> Emma Sander <i>Oda.</i> Belozanne x <i>Oda.</i> Piemont	Golden Gate Glen.O.Across Glen.O.Across F.Glanz
<b>ONCIDIUM</b> Beach Fire Expo Gold Bug Hip Hop Pelican Island Primo Redfish Reef Win	<i>Onc.</i> Two Gentlemen x <i>Onc.</i> Bay Fire <i>Onc.</i> Memoria Ralph Yagi x <i>Onc.</i> Lady Love <i>Onc.</i> Golden Scarab x <i>Onc.</i> Jolly Good <i>Onc.</i> Kathleen Oka x <i>Onc.</i> Missy <i>Onc.</i> Sundowner x <i>Onc.</i> Sammy Ray <i>Onc.</i> Ole x <i>Onc.</i> Missy <i>Onc.</i> Red Fury x <i>Onc.</i> Sammy Ray <i>Onc.</i> Big Bang x <i>Onc.</i> Robsan	A.Aldrich Puanani A.Aldrich Puanani A.Aldrich Puanani A.Aldrich E.Locke
<b>OWENSARA</b> Ben Brown	<i>Ren.</i> Brookie Chandler x <i>Dips.</i> Doubletree	Owens Orchids
<b>PAPHIOPEDILUM</b> Alex's Spots Aurora Fantasy Au Sable Light Betty Green Conflection Conlitem Cosmo-Darkie Cosmo-Niobe Diamond Fantasy Emil Luckel Eric Stead Exhibit Booth Fantasy World Frank and Nigel Glory Ace	<i>Paph.</i> <i>lowii</i> x <i>Paph.</i> <i>kolopakingii</i> <i>Paph.</i> Copperware x <i>Paph.</i> Blanche Sawyer <i>Paph.</i> Whittemoor x <i>Paph.</i> Saint Owens Bay <i>Paph.</i> Betty Bracey x <i>Paph.</i> Memoria Doctor Tsuchiya <i>Paph.</i> Yerba Buena x <i>Paph.</i> Greyi <i>Paph.</i> <i>ilemianum</i> x <i>Paph.</i> <i>concolor</i> <i>Paph.</i> Lawrel x <i>Paph.</i> <i>rotschildianum</i> <i>Paph.</i> Niobe x <i>Paph.</i> Winston Churchill <i>Paph.</i> Freckles x <i>Paph.</i> Valme <i>Paph.</i> Gilm's turmalin x <i>Paph.</i> Dorama <i>Paph.</i> Raisinettes x <i>Paph.</i> Emerald <i>Paph.</i> Skip Bartlett x <i>Paph.</i> Burleigh Mohur <i>Paph.</i> Houghtoniae x <i>Paph.</i> <i>parishii</i> <i>Paph.</i> <i>chamberlainianum</i> x <i>Paph.</i> Greyi <i>Paph.</i> Frank Pearce x <i>Paph.</i> Nigel Calder <i>Paph.</i> Inca x <i>Paph.</i> Stefani Pitta	S.Ohiund(R.J.Rands) I.Muramatsu Castle Rock Orch.(W.Sinkler) Mukoyama Castle Rock Orch.(W.Sinkler) C.R.Flynn Kokusai Kokusai I.Muramatsu J.Jäger K.Stead Castle Rock Orch.(W.Sinkler) A.Klehm I.Muramatsu Mukoyama(M.Kimura) I.Muramatsu



NAME	PARENTAGE	REGISTERED BY
<b>PAPHIOPEDILUM (continued)</b>		
Great Pretender	<i>Paph. villosum</i> x <i>Paph. sanderianum</i>	Castle Rock Orch.(W.Sinkler)
Green Gem	<i>Paph. Jolly</i> x <i>Paph. Jolly Green Gem</i>	Mukoyama
Hahakigi	<i>Paph. Amardahl</i> x <i>Paph. Kirtsubo</i>	T.Tanaka
Hampshire Brand	<i>Paph. Pittsburg</i> x <i>Paph. Margaret Brands</i>	A.Kiehm
Hampshire Land	<i>Paph. New Zealand</i> x <i>Paph. Uncas</i>	A.Kiehm
Hampshire Prairie	<i>Paph. Frosty Jones</i> x <i>Paph. Todd Clark</i>	A.Kiehm
Hampshire Treasure	<i>Paph. Vintner's Treasure</i> x <i>Paph. Spotter</i>	A.Kiehm
Hashi Hime	<i>Paph. Skip Bartlett</i> x <i>Paph. Muriel Constance</i>	T.Tanaka
Hatsune	<i>Paph. Via Muchos Ninos</i> x <i>Paph. Kirtsubo</i>	Mukoyama
Holsilver	<i>Paph. Holdenii</i> x <i>Paph. Silver Fleuret</i>	I.Muramatsu
Hoolcolor	<i>Paph. concolor</i> x <i>Paph. hookerae</i>	Mukoyama
Island Sioux	<i>Paph. Island Song</i> x <i>Paph. Original Sioux</i>	Mukoyama
Joanne's Fair	<i>Paph. Joanne's Wine</i> x <i>Paph. fairrieanum</i>	A & P Orch.
Joanne VanBergen	<i>Paph. Silver Fleuret</i> x <i>Paph. Makuli</i>	B.Joyes(Geyserland)
John Beauty	<i>Paph. John Dovan</i> x <i>Paph. Red Beauty</i>	Mukoyama
Kagerou	<i>Paph. Lake Shinsei</i> x <i>Paph. Psyche</i>	T.Tanaka
Kimura's Flight	<i>Paph. Pacific Ocean</i> x <i>Paph. Pacific Flight</i>	Mukoyama(M.Kimura)
Lawless Dimitrij	<i>Paph. Jack Tonkin</i> x <i>Paph. Via Gaviota</i>	G.Lawless(Orchid House)
Lawless Walküre	<i>Paph. sanderianum</i> x <i>Paph. Pinocchio</i>	G.Lawless(Orchid House)
Mahime	<i>Paph. Magic Lantern</i> x <i>Paph. Psyche</i>	T.Tanaka
Maki Hime	<i>Paph. Pink Bandit</i> x <i>Paph. delenatii</i>	T.Tanaka
Maki Tanaka	<i>Paph. Magic Lantern</i> x <i>Paph. niveum</i>	T.Tanaka
Marie Joyes	<i>Paph. Blackberry Delight</i> x <i>Paph. Masupi</i>	B.Joyes(Geyserland)
Matoaka Tosca	<i>Paph. Via Anacapa</i> x <i>Paph. Gigi</i>	G.Lawless(Orchid House)
Meadow Phips	<i>Paph. Phips</i> x <i>Paph. Meadow Gate</i>	Mukoyama
Memoria Willi Valerius	<i>Paph. Golm's Amethyst</i> x <i>Paph. Via Capistrano</i>	J.Jäger
Mirrian Williamson	<i>Paph. Masupi</i> x <i>Paph. Goutenianum</i>	B.Joyes(Geyserland)
Nakano	<i>Paph. Greenstede</i> x <i>Paph. Yellow Tree</i>	S.Nakano
Orlione	<i>Paph. Blanchette</i> x <i>Paph. armeniacum</i>	T.Tanaka
Pawridge	<i>Paph. Pawnee</i> x <i>Paph. Eridge</i>	Mukoyama
Peach Light	<i>Paph. Elfstone</i> x <i>Paph. bellatulum</i>	Castle Rock Orch.(W.Sinkler)
Pinecup	<i>Paph. Sandman</i> x <i>Paph. Divisadero</i>	I.Muramatsu
Pink Sleigh	<i>Paph. Pamabella</i> x <i>Paph. Hellas</i>	I.Muramatsu
Prairie Fire	<i>Paph. Josie Gonzales</i> x <i>Paph. Oto</i>	C.R.Flynn
Prairie Grass	<i>Paph. Pine Creek</i> x <i>Paph. Maudiae</i>	A.Kiehm
Resurrection Cail	<i>Paph. Gabriel's Trumpet</i> x <i>Paph. Hellas</i>	S.Ohlund(R.J.Rands)
Robin's Raspberry Hayes	<i>Paph. Greyi</i> x <i>Paph. liernianum</i>	P & R Orchids(K.Smart)
Roselynn Gray	<i>Paph. sukhakuli</i> x <i>Paph. lowii</i>	Castle Rock Orch.(W.Sinkler)
Silver Harbour	<i>Paph. Whitemoor</i> x <i>Paph. Greenhorn</i>	Mukoyama
Sloux Nellie	<i>Paph. Sioux on Hill</i> x <i>Paph. Personella</i>	J.Jäger
Spreatheen	<i>Paph. Linda</i> x <i>Paph. Castillo</i>	T.Tanaka
Suzumushi	<i>Paph. Wössner Bellarmi</i> x <i>Paph. concolor</i>	Castle Rock Orch.(W.Sinkler)
Telemark	<i>Paph. Landmark</i> x <i>Paph. glanduliferum</i>	Mukoyama
Tsuchiya Tiding	<i>Paph. Memoria Doctor Tsuchiya</i> x <i>Paph. Rip Tide</i>	T.Tanaka
Ukishiya	<i>Paph. Le Hocq Point</i> x <i>Paph. Kirtsubo</i>	T.Tanaka
Umegae	<i>Paph. Amardahl</i> x <i>Paph. delenatii</i>	T.Tanaka
Usugumo	<i>Paph. Skip Bartlett</i> x <i>Paph. Kirtsubo</i>	I.Muramatsu
White Diamond	<i>Paph. Althea Tonkin</i> x <i>Paph. White Knight</i>	I.Muramatsu
Whitegold Tomo	<i>Paph. Diversion</i> x <i>Paph. Saint Owens Bay</i>	I.Muramatsu
White Horse	<i>Paph. Snowram</i> x <i>Paph. Sally</i>	Mukoyama
White Puddle	<i>Paph. Phips</i> x <i>Paph. F. C. Puddle</i>	Mukoyama
Win Keyshill	<i>Paph. Winlantis</i> x <i>Paph. Keyeshill</i>	Mukoyama
Win of Card	<i>Paph. Cardinal</i> x <i>Paph. Winston Churchill</i>	Mukoyama
Win of Island	<i>Paph. Bay of Island</i> x <i>Paph. Winston Churchill</i>	Mukoyama
Winston Green	<i>Paph. Memoria Doctor Tsuchiya</i> x <i>Paph. Winston Churchill</i>	Mukoyama
<b>PAPHIOPEDILUM (continued)</b>		
Winter Fantasy	<i>Paph. Winston Churchill</i> x <i>Paph. Feuerwerk</i>	I.Muramatsu(O/U)
Win Yamamoto	<i>Paph. Winston Churchill</i> x <i>Paph. Andy Yamamoto</i>	Mukoyama
Yaezaki	<i>Paph. Via Tokyo</i> x <i>Paph. charlesworthii</i>	T.Tanaka
Yellow Magic	<i>Paph. Norito Hasegawa</i> x <i>Paph. armeniacum</i>	T.Tanaka
Yuugao	<i>Paph. F. C. Puddle</i> x <i>Paph. Kirtsubo</i>	T.Tanaka
<b>PARACHILUS</b>		
Freckles	<i>Prcls. Riverdene</i> x <i>Sarco. weinthalii</i>	D.Butler
<b>PESCATOBOLLEA</b>		
Sandra's First	<i>Bol. ecuadorana</i> t x <i>Pes. lehmannii</i>	S.Svoboda(Cal-Orchid)
<b>PESCORANTHES</b>		
Mariko Saum	<i>Cnth. discolor</i> x <i>Pentl. Painted Lady</i>	C.Caswell
<b>PHALUS</b>		
Queen Margrethe	<i>Phaius grandifolius</i> x <i>Phaius schlechteri</i> t	H.Christiansen
<b>PHALAEOPSIS</b>		
Adeline Klein	<i>Phal. Memoria Anton Smith</i> x <i>Phal. Heiko</i>	R.Bucher(O/U)
Akatsuka Angel	<i>Phal. Paul Tatar</i> x <i>Phal. equestris</i>	Akatsuka Orch.Co.
Akatsuka Candy	<i>Phal. Neon Stripes</i> x <i>Phal. Be Glad</i>	Akatsuka Orch.Co.
Akatsuka Dream	<i>Phal. Hawaiian Stripe</i> x <i>Phal. Carmela's Pixie</i>	Akatsuka Orch.Co.
Akatsuka Jewel	<i>Phal. Maki Watanabe</i> x <i>Phal. Hinamatsuri</i>	Akatsuka Orch.Co.
Akatsuka Ruby	<i>Phal. Hawaiian Stripe</i> x <i>Phal. Zuma's Pixie</i>	Akatsuka Orch.Co.
Akatsuka Smile	<i>Phal. Be Glad</i> x <i>Phal. Fairy Tales</i>	Akatsuka Orch.Co.
Akatsuka Stripes	<i>Phal. Carmela's Gem</i> x <i>Phal. Matou Freed</i>	Akatsuka Orch.Co.
Alice Elbert	<i>Phal. Fortune Buddha</i> x <i>Phal. Gelbleber</i>	W.Elbert(O/U)
Ann Geisler	<i>Phal. Green Mist</i> x <i>Phal. Twenty</i>	S.Pridgen
Argo Silk	<i>Phal. Margo</i> x <i>Phal. Spring Silk</i>	E.S.Wright
Bedford Baby	<i>Phal. Kuntrarti Rarashati</i> x <i>Phal. amboinensis</i>	H.Ginsberg
Bedford Belle	<i>Phal. Penang Girl</i> x <i>Phal. amboinensis</i>	H.Ginsberg
Bedford Berries	<i>Phal. Tiny Berries</i> x <i>Phal. amabilis</i>	H.Ginsberg
Bedford Buddha Stripe	<i>Phal. Golden Buddha</i> x <i>Phal. Massachusetts Stripe</i>	H.Ginsberg
Bedford Grinch	<i>Phal. Brother Elegance</i> x <i>Phal. Bedford Grumpy</i>	H.Ginsberg
Bedford Surprise	<i>Phal. Brother Heather</i> x <i>Phal. Massachusetts Stripe</i>	H.Ginsberg
Betsy Chandler	<i>Phal. Tabasco Tex</i> x <i>Phal. Temple Bells</i>	B.Woodson
Berry Barrett	<i>Phal. Little Natsuko</i> x <i>Phal. Baya Rosita</i>	S.Nisbet
Bill Goldberg	<i>Phal. Sogo Peak</i> x <i>Phal. Ching Her Buddha</i>	E.Goldberg(Lyon Lin)
Brother Derek	<i>Phal. Brother Fancy</i> x <i>Phal. equestris</i>	J.Klehm(Brother)
Brother Golden Mango	<i>Phal. Brother Dream</i> x <i>Phal. Brother Stage</i>	Brother
Brother Key Largo	<i>Phal. White Dream</i> x <i>Phal. Taisuco Windian</i>	Brother
Brother Orange Runabout	<i>Phal. Timothy Christopher</i> x <i>Phal. Brother Sara Gold</i>	Brother
Brother Orange Surething	<i>Phal. Sunrise Delight</i> x <i>Phal. Brother Sara Gold</i>	Brother
Brother Pico Stripper	<i>Phal. Sunrise Delight</i> x <i>Phal. equestris</i>	Brother
Brother Pukimur	<i>Phal. Brother Peak</i> x <i>Phal. Brother Stage</i>	Brother
Brother Skimmer	<i>Phal. Be Tris</i> x <i>Phal. Brother Stage</i>	Brother
Brother Vasquez	<i>Phal. Brother Treasure</i> x <i>Phal. George Vasquez</i>	Peter Lin(Brother)
Candy Pop	<i>Phal. Gallant Beau</i> x <i>Phal. Matou Freed</i>	Akatsuka Orch.Co.
Cherokee Queen	<i>Phal. Cherokee Chief</i> x <i>Phal. Pailang's Queen</i>	W.Losert
Cherry Mango	<i>Phal. Orangethief Pride</i> x <i>Phal. Hausermann's Adam</i>	Stones River
Crystal Touch	<i>Phal. Maki Watanabe</i> x <i>Phal. Musashino</i>	Akatsuka Orch.Co.
Dawn Treasure	<i>Phal. Golden Bells</i> x <i>Phal. Dawn Treader</i>	Phalatics
Deep Purple	<i>Phal. Knew It</i> x <i>Phal. Collin's Joy</i>	J.L.Fischer
Dreamer's Gold	<i>Phal. Verde de Lune</i> x <i>Phal. Prospector's Dream</i>	John H.Miller



NAME	PARENTAGE	REGISTERED BY
<b>PHALAEOPSIS (continued)</b>		
Emma's Gold Treasure	Phal. Prospector's Dream x Phal. Deventeriana	Phalatics
Eva's Libertad Colombiana	Phal. Eva's Nevado Puro x Phal. Crystal Veil	Orquideas Eva
Eva's Nebelina	Phal. <i>amabilis</i> x Phal. Eva's Nevado Puro	Orquideas Eva
Gift Star	Phal. Penang Violacea x Phal. <i>amboinensis</i>	T.Takada
Glad Windsor	Phal. Glad Anna x Phal. <i>Leucorhoda</i>	Windsong
Gloria's Golden Angel	Phal. Golden Circles x Phal. Florida Snow	Hilltop Orch.
Ho's Fancy Coral	Phal. Ho's Fancy Polkadots x Phal. Liu's Gleamy Ruby	Tin-Fan Ho
Ho's Glad Fantasia	Phal. Be Glad x Phal. Ho's French Fantasia	Tin-Fan Ho
Island Star	Phal. Maki Watanabe x Phal. <i>amabilis</i>	Akatsuka Orch.Co.
Jane Hudson	Phal. Barbara Buddha x Phal. Deventeriana	A.Pickrel(O/U)
Jane Nichols	Phal. Inverness Girl x Phal. Platinum Plus	J.Majewski(O/U)
Jezebel	Phal. King's Ann x Phal. Jane Hudson	A.Pickrel(Carmela)
Kayo Takada	Phal. Hsinton Rose x Phal. Carmela's Wild Thing	T.Takada
Ken Griffith	Phal. Twenty x Phal. Brecko Dreaming	S.Pridgen
Kyoko Takada	Phal. Golden Peoker x Phal. Carmela's Wild Thing	Stones River
Laura's Kiss	Phal. Morgenrot x Phal. Midnight Kiss	Stones River
Lemon Mist	Phal. Lemon Peel x Phal. Jade	John H.Miller
Lemon Zest	Phal. Golden Amboin x Phal. Hausermann's Adam	Stones River
Leucadia Fire	Phal. Cordova x Phal. Flaming Star	John H.Miller(Leucadia)
Leucadia Princess Cordova	Phal. Cordova x Phal. Princess Kaulani	Orchid Koneksi(Leucadia)
Leucadia Tiny Orange	Phal. Vista Valentine x Phal. <i>venosa</i>	Leucadia(O/U)
Lime Gold	Phal. Be Glad x Phal. Brother Lawrence	Akatsuka Orch.Co.
Little Stuart	Phal. Cosmo-Stuart x Phal. <i>equestris</i>	Kokusai
Little Victory	Phal. Brother Victory x Phal. <i>stuartiana</i>	Akatsuka Orch.Co.
Liu's Bright Ruby	Phal. <i>lindenii</i> x Phal. Timothy Christopher	Hwa-Tung Liu
Liu's Fantasy	Phal. Be Glad x Phal. Timothy Christopher	Hwa-Tung Liu
Louis Marks	Phal. Rae Weisman x Phal. Celia Marks	S.Nisbet
Love Gift	Phal. <i>parishii</i> x Phal. <i>gibbosa</i>	Hou Tse Liu
Magic Candy	Phal. Miyarabi Candy x Phal. Miwa Smartissimo	Akatsuka Orch.Co.
Majestic Sunset	Phal. Thom Straus x Phal. Hausermann's Adam	Stones River
Margaret Pope	Phal. Coral Isles x Phal. Sue Meyer	Bettencourt
Memoria David Gross	Phal. Cacharel x Phal. Abendrot	J.Jusczak
Memoria George Klein	Phal. Adeline Klein x Phal. <i>violacea</i>	R.Buchter
Memoria Levent Chen	Phal. Hilo Stripes x Phal. Designers Choice	C.Hackney(Carmela)
Mine Candytuft	Phal. Brother Candytuft x Phal. Terilyn Fujiake	Akatsuka Orch.Co.
Miva Topaze	Phal. <i>venosa</i> x Phal. Raptigny	Michel Vacherot
Neon Ruby	Phal. Neon Stripes x Phal. Abendrot	Akatsuka Orch.Co.
Nice Song	Phal. Dawn Song x Phal. Terilyn Fujiake	Akatsuka Orch.Co.
Orchidexpert Coccinelle	Phal. Taipei Gold x Phal. Everglades Sunset	Orchidexpert(M.Mongeeon)
Pastel Passion	Phal. Margaret Wilson x Phal. Hausermann's Passion	Stones River(Hausermann)
Picolo	Phal. Francis Melendez x Phal. Carmela's Spots	Orchidexpert(M.Mongeeon)
Picoli-Picola	Phal. Elise de Valec x Phal. <i>stuartiana</i>	M & M.F.Bourdon
Pineapple Delight	Phal. Art Hall x Phal. <i>philippinensis</i>	C.Hackney
Pinkerton Man	Phal. Puki's Pink x Phal. <i>amabilis</i>	E.S.Wright
Pisgan Bee	Phal. Hausermann's Goldcup x Phal. Brazilian Eyes	Owens Orchids
Pourunkuku	Phal. Sweet Memory x Phal. <i>tetraspis</i>	Orchidexpert(M.Mongeeon)
Precious Pixie	Phal. Carmela's Pixie x Phal. Precious Jewel	C.Kumano(Carmela)
Pure Moon	Phal. Timothy Christopher x Phal. Brother Lawrence	Akatsuka Orch.Co.
Referee	Phal. Pinlong Girl x Phal. Eastern Stripe	E.S.Wright
Ruby Crown	Phal. Tungku Alzan x Phal. Cordova	Phalatics
San Jacinto Surprise	Phal. Suzana Wijanto x Phal. Mitsuko Takasaki	G.Stall
San Shia Lady	Phal. <i>schilleriana</i> x Phal. <i>celebensis</i>	Hou Tse Liu
Sedona's Little Queen	Phal. Hakalau Queen x Phal. <i>philippinensis</i>	Sedona
Seminah	Phal. Liu Tuen-Shen x Phal. Seminole	W.Losert(Hausermann)
Sierra Serenade	Phal. Sierra Buddha x Phal. Leucadia Lava Flow	Phal.
Smile Pink	Phal. <i>schilleriana</i> x Phal. Hinamatsuri	Phal.
Sogo Chamba	Phal. Sogo Champion x Phal. Ching Her Buddha	Phal.
Sogo Diana	Phal. Sogo Lisa x Phal. Luchia Lip	Phal.
Sogo Festival	Phal. Taipei Gold x Phal. Sogo Lisa	Phal.
Sogo Imp	Phal. Golden Imp x Phal. Chih Shang's Stripes	Phal.
Sogo Kawaii	Phal. Rainbow Chip x Phal. Brother Sara Gold	Phal.
Sogo Lion	Phal. Brother Lawrence x Phal. Sogo Lisa	Phal.
Sogo Match	Phal. Sogo Nissan x Phal. Ching Her Buddha	Phal.
Sogo Plant	Phal. Sogo John x Phal. Ching Her Buddha	Phal.
Sogo Pony	Phal. Golden Sun x Phal. Sogo Bingo	Phal.
Sogo Rose	Phal. Ching Her Buddha x Phal. Sogo Kaulani	Phal.
Sogo Stuartis	Phal. Golden Sun x Phal. Sogo Kaulani	Phal.
Sogo Tenny	Phal. Artemis x Phal. <i>stuartiana</i>	Phal.
Sogo Town	Phal. Golden Sun x Phal. Sogo Walt	Phal.
Sogo Victoria	Phal. Sogo Peak x Phal. Golden Sun	Phal.
Sogo Yuki	Phal. Sogo Washington x Phal. Golden Sun	Phal.
Solar Windsong	Phal. Brother Gold Miss x Phal. <i>philippinensis</i>	Phal.
Star Pink Pearl	Phal. Solar Flare x Phal. Malibu Imp	Phal.
Sugar Spots	Phal. Riverbend's Pink Pearl x Phal. Abendrot	Phal.
Ted's Revenge	Phal. Ho's Vivid Freckles x Phal. Double Delight	Phal.
Temple Gold	Phal. Paul Tatar x Phal. Sweet Revenge	Phal.
Tzeng-Wen Sweet	Phal. Cinnamon Gold x Phal. Golden Buddha	Phal.
Vivid Candy	Phal. Ever-spring King x Phal. Hsinton Rose	Phal.
Vivid Snow	Phal. Ho's Vivid Freckles x Phal. Miyarabi Candy	Phal.
Willow Sunburst	Phal. Ho's Vivid Freckles x Phal. Musashino	Phal.
Willow World	Phal. Rubert Joseph x Phal. Semishen	Phal.
Windsong's Child	Phal. Orchid World x Phal. Georges Seurat	Phal.
Windsong's Fairie Poem	Phal. Susan Straus x Phal. Micha's Child	Phal.
Windsong's Flash Dance	Phal. Poem Windsong x Phal. Windsong's Fairie	Phal.
Windsong's Gold Cup	Phal. Riverbend's Snow Berries x Phal. Glad Lip	Phal.
Windsong's Polka	Phal. Polkafest x Phal. Gloria Noble	Phal.
Wise's Vistrah	Phal. Donald Rigg x Phal. Stripes and More	Phal.
Wössner Flare	Phal. Wise's Prince Dmitri x Phal. Wise's Ian Song	Phal.
Wössner Goldfor	Phal. Wössner Gold x Phal. Brother Lawrence	Phal.
Wössner Moonlight	Phal. Deventeriana x Phal. <i>floresensis</i>	Phal.
Wössner Stripes	Phal. Leucorhoda x Phal. Brother Lawrence	Phal.
Yellow Fellow	Phal. Chiamade x Phal. Franz Glanz	Phal.
	Phal. Merry Morning x Phal. <i>venosa</i>	Phal.
<b>PHRAGMIPEDIUM</b>		
Dragon's Year	Phrag. Rosalie Dixler x Phrag. <i>longifolium</i>	J.L.Fischer(O/U)
Purple Wave	Phrag. Memoria Dick Clements x Phrag. <i>fischeri</i>	J.L.Fischer
Red Lightning	Phrag. <i>sargentianum</i> x Phrag. <i>warcewiczianum</i>	M.Ledoux
Wössner Perle	Phrag. Carol Kanzer x Phrag. <i>besseae</i>	F.Glanz
<b>PORROVALLIA</b>		
Eva's Pacificadora	Masd. <i>coccinea</i> x Prgm. <i>nutilbara</i> †	Orquideas Eva
<b>POTINARA</b>		
Bill Bates	Pot. Twentyfour Carat x Pot. Free Spirit	W.L.Bates
Burrel Gambel	Bic. Tribute x Sic. Rudolph	K.Gambel(Fordyce)
Chocolate Burgundy	Pot. Gordon Siu x C. Chocolate Drop	F.Tuxworth(O/U)
Cosmo-Pachidawn	Sic. Kagaribi Dawn x Bic. Love Sound	Kokusai



NAME	PARENTAGE	REGISTERED BY	NAME	PARENTAGE	REGISTERED BY
<b>POTINARA (continued)</b>			<b>SOPHROLAELUCCIATILEYA</b>		
Cosmo-Pachihama	Pot. Hamana Song x Blc. Love Sound	Kokusai	Alice Penning	C. Hawaiian Variable x Slc. California Apricot	L. Penning(Gold Country)
DiPozzi Dolce Vita	Pot. Hazel de Valec x C. <i>aclandiae</i>	Fl.Edmondo Pozzi	Cosmo-Panther	Lc. Angel Love x Sc. Beaufort	Kokusai
Dogashima Paradise	Pot. Gordon Siu x Bc. Malkai	Dogashima	DiPozzi Vulcano	Sc. Beaufort x L. <i>milleri</i>	Fl.Edmondo Pozzi
Dogashima Spring	Lc. Tokyo Magic x Pot. Mystere	Dogashima	Dogashima Sunset	Slc. Love Excellence x Sc. Beaufort	Dogashima
Franklin Smith	Pot. Jack Crawford x Sc. Beaufort	Krull-Smith	Hawaiian Splash	Sl. Psyche x Lc. Mishima Star	Y.Toyama(Orchid Center)
Idol Star	Pot. Elegant Dancer x Sc. Calypso	Dogashima	Meadow Spring Song	Slc. Persian Garden x Lc. Meadow Gold	Harue Ishii
Imperial Topaz	Pot. Sweet Sugar x Blc. Chyong Guu Chaffinch	M.Hotta	Mon Sheri	Slc. Sexy Love x Sc. Beaufort	Dogashima
Japanese Dream	Bc. Humming Angel x Pot. Love Call	Dogashima	<b>STANHOPEA</b>		
Joy Sokabe	Pot. Fusako Yamaoka x Lc. Irene Finney	Akatsuka Orch.Gdns.	Naked Lady	Stan. <i>reichenbachiana</i> † x Stan. <i>pulla</i> †	D.Pulley
Manareu Siu	Blc. Manareu Sunset x Pot. Gordon Siu	Orquideas Eva(O/U)	<b>STELLAMIZUTAARA</b>		
Matt Saffenberg	Pot. Elaine Taylor x Pot. Jack Crawford	Krull-Smith	Florida Sunset	B. Maria del Carmen x Ctra. Why Not	Mickeys(J. Robson)
Miracle Shot	Pot. Love Call x Sl. Psyche	Dogashima	<b>STEWARTARA</b>		
Morning Call	Pot. Love Passion x Sc. Beaufort	F.Glanz	Stavanger	Adgm. Jersey x Oda. Bellozanne	W.R.Porter(George Black)
Nina Clement	Blc. Daybreak x Slc. Wössner Surprise	Dogashima	<b>VANDA</b>		
Sweet Home	Slc. Philip Ho x Pot. Mystere	Wong Ching-Tien	Arthur Lauffenberger	V. Rothschildiana x V. Danny German	Motes
Tzeng-Wen Free	Pot. Free Spirit x Blc. Tzeng-Wen Beauty	Wong Ching-Tien	Crownfox Diva	V. Doctor Anek x V. <i>sanderiana</i>	R.F.Orchids
Tzeng-Wen Gold	Blc. Apricot Flare x Pot. Haw Yuan Gold	Wong Ching-Tien	Kaewkao Blue	V. Fuchs Fortune x V. Gordon Dillon	R.Diteyont
Tzeng-Wen Lisa	Blc. Chialin Beauty x Pot. Shinfong Lisa	Wong Ching-Tien	Martina Rivera	V. <i>sanderiana</i> x V. Pat Kinsley	R.F.Orchids
Tzeng-Wen Sunset	Pot. Shinfong Lisa x Blc. Chunyeah		<b>VUYLESTEKEARA</b>		
<b>PROPETALUM</b>			Ruby Tide	Vuyl. Monatia x Milit. Red Tide	Glen.O.Acres
Kiwi Leopard	Prom. Kiwi Small World x Pptm. Mathina	R. Tucker	<b>WILSONARA</b>		
<b>RECHARA</b>			My Quest	Wils. Bubba Mock x Oda. Florence Stirling	Everglades
Ramirez Firefly	Blc. Stan's Golden Car x Schom. <i>wallisii</i> †	M. Ramirez	<b>ZYGOCOLAX</b>		
Schloat Aristocrat	Lyon. Warren Schloat x Blc. Gerald Fischer	D.Schloat	Kiwi Pupuke	Zcx. Elfin Jade x Z. Blackli	R. Tucker
<b>RENADES</b>			Kiwi Shadow	Z. Kiwi Classic x Zcx. Elfin Jade	R. Tucker
Memoria Mary Galilpeau	Aér. odorata x Ren. <i>imschootiana</i>	G. Galilpeau	<b>ZYGONERIA</b>		
<b>RENANTHERA</b>			Beverley Candy	Z. Gidget x Zga. Dynamo	W.Fisher
Mauricette Brin	Ren. Bangkok Flame x Ren. <i>storiei</i>	Motes	<b>ZYGOPETALUM</b>	Z. Gary Baker x Zga. Adelaide Meadows	W.Fisher
Tan Meng Kuan	Ren. Merritt Island x Ren. <i>philippinensis</i>	Meng Kuan Tan (Cheah Wah Sang)	Betty Black Pearl	Z. Gidget x Z. Inky Dink	R. Tucker
<b>RODRETTIA</b>				Z. <i>maxillare</i> x Z. John Banks	
Eva's Immaculada	Rdza. <i>granadensis</i> x Comp. ignea	Orquideas Eva			
Eva's Rosa Tropical	Rdza. <i>granadensis</i> x Comp. <i>macroelectron</i>	Orquideas Eva			
<b>RODRICIDIUM</b>					
Astro	Rdcm. Just Dandy x Onc. Barbie	Puanani			
Bravo	Onc. Ole x Rdcm. Just Dandy	Puanani			
Gusto	Onc. Memoria Ralph Yagi x Rdcm. Just Dandy	Puanani			
Kudos	Rdcm. Just Dandy x Onc. Pauoa Delight	Puanani			
<b>RONNYARA</b>					
Leong Wai Cheng	Aér. <i>lawrenceae</i> x Vasco. Five Friendships Pretty	How Wai Ron			
<b>SCHOMBURGKIA</b>					
Rocky Clough	Schom. <i>undulata</i> x Schom. <i>crispa</i>	G.Carr(O/U)			
<b>SOPHROCATTLEYA</b>					
Keshin's Beau	Sc. Beaufort x C. Hawaiian Jewel	K. & E. Morrison(H & R)			



\* New intergeneric name with abbreviation for the following combination. The botanical authority follows each component genus.

*Cycsellia* = *Ansellia* Lindley x *Cycnoches* Lindley

*Houllora* = *Gongora* Ruiz & Pavón x *Houllertia* Brongniart  
*Iacovielloara* (named in honour of Enzo Iacoviello of Canada) = *Brassavola* R. Brown x *Cattleya* Lindley x *Diaclium* Benthams x *Epidendrum* Linnaeus x *Laelia* Lindley

† Natural genus new to registration. The botanical authority follows the generic name.  
*Houllertia* Brongniart

‡ Species appearing for the first time as parents in registration:-

*Bollea ecuadorana*; *Catasetum purum*; *Houllertia vittata*; *Masdevallia foetens*; *Mormodes cogniauxii*;  
*Mormodes joritchii*; *Mormodes rolfearum*; *Phaius schlechteri*; *Porroglossum nutibara*; *Schomburgkia wallisii*;  
*Stanhopea pulla*; *Stanhopea reichenbachiana*

**CORRIGENDA** - Sander's List of Orchid Hybrids 1996-1998

(Primary entries only noted below)  
p.275, *Epi. O'Brienianum*: seed parent should read *Epi. evectum*

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# **The Orchid Thief**

by Susan Orlean

350 pages, paperback ISBN 0 09 928958

X Published by Vintage, Random House, London in 2000.

The last year has seen the publication of two most unusual and interesting orchid books. 'Orchid Fever' by Eric Hansen has been subject to a very mixed reception.

It is a controversial book likely to arouse strong emotions in many readers.

'The Orchid Thief' by Susan Orlean is quite another story.

It is a delightful book written by a highly skilled writer and observer – almost in the vein of those travel books by Bill Bryson and the like that are so popular on the world market at present. It presents its observations in a non-confronting, relaxed style, but covers an immense landscape of the orchid world.

'The Orchid Thief' is a paper back of 350 pages which is described in the blurb on the back cover as 'A non-fiction book that reads like a novel'. It tells several interwoven stories.

There is the tale of John Laroche who is the orchid thief of the title and who could only be described as one of the characters of the orchid world; it tells the story of the Fakahatchee Strand, a reserve of 63 000 acres of swamp in southern Florida and it looks at the orchid community of Florida, exploring its foibles in some detail. For me, because of my particular background of developing legislation on endangered plants, I was fascinated by the exploration of the vexed question of the rights of indigenous landowners (the Seminole Indians in this case) to exploit the endangered plants growing wild on their land.

The history of the Seminole people and of orchid collectors from the nineteenth century to the present are all explored and woven into the story.

John Laroche was apprehended emerging from the Fakahatchee Strand along with several members of the Seminole tribe in possession of endangered plants including the ghost orchid *Polyrrhiza lindenii* (or more correctly *Polyradicion lindenii*).

He and his companions were charged and the newspaper report of the charges caught the eye of the author Susan Orlean who, at that stage, knew nothing of the orchid family and the people who grow them.

She journeyed to Florida to follow up what she probably saw as a short magazine article but quickly became immersed in the subculture of orchid growers and collectors.

In fact the adventures of Laroche could

have been presented in just a few pages, but it is the interwoven related themes that fill out the pages of this charmingly written book. It is here that the interest of the book lies for orchid growers.

Susan Orlean provides a window into the orchid world that only an outsider could provide, exposing the obsessions of a very focussed group of people. She gives the orchid community the chance to see itself as others see it. As she puts it 'Nothing in science can account for the way people feel about orchids. Orchids seem to drive people crazy. Those who love them love them madly. Orchids arouse passion more than romance.'

She explores this orchid fever through several well known orchid personalities such as Martin Motes, the well known Vanda expert and her observations will give rise to many a knowing chuckle amongst orchid growers in all parts of the world. By and large the orchid community, despite their foibles, comes across to the reader as perhaps slightly mad, but pleasantly so.

Despite her determination not to succumb to the orchid fever, her fascination with the ghost orchid is one of the recurring strands that link the often sharply contrasting elements of this book together.

*Polyrrhiza lindenii* occurs on some Caribbean Islands and in southern Florida. It is a leafless species with a large, attractive white flower, but it has proved difficult to cultivate. Laroche had developed grandiose plans to propagate it in the laboratory that he was setting up for the Seminole tribe and his raid into the Strand was to obtain stock plants for this project.

His justification for his raid was that the indigenous people could do as they liked with the plants on their land – even endangered species. The question of the rights of indigenous landowners to deal with endangered plants occurring naturally on their land is canvassed.

In the case described in the book, the outcome of the court case could only be described as murky – it resolved nothing.

Such questions are bound up in the laws of the country and the state in which the plants grow, but to my mind there should be only one guiding principle anywhere in the world – what is in the best interests of the plants involved?

In the Florida case it remains unclear whether Seminole Indians have the right to remove the plants, but it is my belief that this should not be a right in the case of endangered species.

For less directly threatened species, my position is that the traditional land owners should be able to use plants for traditional purposes, but this would not include, for

example, taking plants from the wild and selling them.

However it could, in my opinion, involve propagating the species and making the progeny available in the marketplace, providing that wild populations are not threatened in the process and that conservation laws are observed.

For a non orchid person the author has done an excellent job in researching and explaining the history and biology of orchids with only one or two very minor inaccuracies.

Probably the worst mistake in the book is on the cover. I would have been a lot happier if the cover photo of a *Phalaenopsis* flower had not been upside down, and I imagine this may well deter some potential buyers from the orchid growing community.

My recommendation is – don't judge this book by its cover, it is packed full of interesting information and is written in a most engaging and amusing style.

Bill Lavarack

37 Bay St Pallarenda Qld 4810

# **Breeding Dendrobium Orchids in Hawaii**

by Haruyuki Kamemoto, Teresita

Amore & Adelheid Kuehnle

166 pp. 286mm x 210mm Hardcover.

Published by University of Hawaii

Press. www.hawaii.edu/uhpress

ISBN 0 8248 2118 1 USD \$60.00

This is a most impressive volume. It is basically a summary of the breeding done, primarily by the University of Hawaii, over the past half a century. The nomenclature used throughout is mostly up to date but there are some minor problems with determinations, both at a specific and sectional level.

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*Dendrobium* species, important to the nursery industry in Hawaii, is followed by discussion on some of the most popular and successful hybrids. The main *Dendrobium* sections covered are *Phalaenanth*, *Spatulata*, *Latouria*, *Dendrobium*, *Callista* and *Formosae*. There is also discussion about the relationships and compatibility between the various species.

There are fourteen notable chapters including topics such as polyploid breeding, genome breeding, inbreeding effects, reciprocal crosses, androgenesis, virus, genetics, breeding cut-flower cultivars, breeding 'pot plant' cultivars, breeding yellows and novel characters (including the 'pansy' lip cultivars) and finally the topical breeding by genetic engineering. Included at the back of this work are appendices on techniques for counting chromosomes, germination of *Dendrobium* seeds, deflasking seedlings and the micropropagation and chromosome doubling of *Dendrobium*. There is also a glossary of terms and important references.

The colour photographs used are of a very high standard, which show a wide variety of notable cultivars. I was interested to see pictorial results of a couple of novelty trisectional hybrids, firstly *D.* (Jaquelyn Thomas x *parishii*) involving *Phalaenanth*, *Spatulata* and *Dendrobium* and the second – *D.* Uniwai Crystal (Jaquelyn Thomas x *draconis*) featuring *Phalaenanth*, *Spatulata* and *Nigrohirsutae*.

This book is essential reading for anyone interested in dendrobiums, both species and hybrids. It would also be most beneficial to those involved in the hybridisation of orchids, as the principles advocated in this work are applicable for other genera. It is the best book I have seen on this topic.

David P. Banks

## The Orchadian

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Edited by David P. Banks

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## Cattleyas

Over the last few years we have tried all sorts of materials to plant cattleyas in. Queensland use certain media with excellent results while if growers in Victoria try the same potting media they end up with all sorts of problems.

Yates of Sydney have released an inert product called pumice. It comes in three grades – fine, medium and coarse. This is very easy to use, especially with cattleyas. The only problem with using pumice is that you have to keep the nutrients up to the plant. I tried some over a year ago and found it worked quite well as long as I fertigated every second day. Pumice is very popular in New Zealand.

We now have ABSORBA-STONE® and ABSORBALITE®. I have not used any of these two products, so I cannot comment on their use for cattleya. If any of you cattleya growers have used any of these products drop a line to our trusty editor.

Now is the time you should be dividing and repotting you plants. Don't forget to make sure to leave at least three or four bulbs to each division. A little sphagnum moss for top dressing does wonders for newly potted plants. In fact, why not pot a few of your cattleyas in some Tassie sphagnum moss. If using moss make sure you do not overwater your plants.

During the summer period you may need to water every three to five days. Drench the pot well when you water. Fertilise weekly with GARDEN PARTY®. Check for scale. Spray with NATRASOAP® mixed with SPRAY-TECH OIL® or you could use ANTISCALE®.

Important – make sure your plants have reasonable shade during the hot summer period. ■

## Cymbidiums

Most cymbidium growers hope to grow and flower their plants to the ultimate! But what is the ultimate? The only measure of the ultimate is the award system of judging our flowers to a standard that may be our flowers can reach. To those growers who only grow for their own pleasure, as long as blooms are pleasing to the eye, that is OK by them. The next question is can we achieve this imaginary level of ultimate? You can now ask what am I am writing about!

Over the last year or so we have been involved with hundreds of products to apply to our orchids. We now have a formula for the roots, bulbs, possibly the leaves, something for the spring and maybe the autumn and don't forget the flowers – size, colour and don't forget the flower count!

We get letters and phone calls from all over regarding some of these "snake oil" preparations. Don't get me wrong, some of these new products are excellent. One wonders if our plants know what is best for them. One thing to remember – not all fertilisers work for all clones for all growers in all areas!

Well what is best for our cymbidiums? There is not one simple answer to this question. I know a well known grower who only uses AQUASOL® and his plants and flowers are superb! He just changes the rate to suit the plant. If growing well increase the rate, if in a form of dormancy, reduce the rate. How simple is that? More

AQUASAL® is sold in Australia than any other fertiliser in the horticultural industry. Many of the new products are excellent in their own right, but remember, if you start mixing this with that and so on, you could end up with a salty water concoction. The final word is if you are satisfied with your results, don't change. If you are unhappy change your programme on half of your collection and keep at it for at least two full complete seasons to see if there is any noticeable difference. Remember if these new products did not help plants grow they would not be on the market. If in doubt ask an experienced grower if they have used this new wonder product or know someone who has.

Well how was your flowering season? I hope it was satisfactory for you. Most growers on the east coast had a good season until a plague of thrips invaded most growers' collections the first weekend in October!

Now is the time to watch your plants grow. All of your repotting should have been completed. Early in the new year you can think about repotting on those seedlings you bought last spring. This will give them a little push once their new roots hit the new media. Don't forget to add a little ZEOLITE to your new mix. A few controlled release pellets will also be beneficial. Us a high N formulation with any of the time releases.

If any of your plants are carrying seed capsules paint a mixture of CARBARYL on the capsules to keep dendrobium beetles away. Watch for two-spotted mites. If they are a major problem to you, release predatory mites into the collection. Two-spotted mites can normally be controlled with OMITE®, KELTHANE® or if you want to use one of the natural products mix SPRAYTECH OIL® with NATRASOAP®. This can work very well if you are careful when you are spraying. ECO-OIL® and PEST OIL® have also got lot of followers.

You should be watching your plants for the first sign of black spot fungus. You will have to give your plants two or three applications seven days apart to control this nuisance fungi. You can use any of the following with good results. MACOZEB, PLANT VAX® or any of the TRI-FORNE preparations. If it gets out of hand other growers will think you have the dreaded ring spot virus.

Now that summer is here you should start your watering in the evening. Just on sundown is the ideal time. Water when plants are just starting to dry. Mist lightly if the weather turns to heat wave conditions.

Keep your nutrients up to your plants. Your plants are now in the process of maturing their bulbs and getting ready for the next flowering season. Check the pH of the compost. If down you can top dress with dolomite or superfine lime. If your plants are growing in pine bark make sure your plants get adequate iron, boron, calcium and magnesium. An application of BOOSTER V® or BMX® will help.

Remember the December through to April is a very important time in the life of your cymbidium. ■

## Natives

Although the peak flowering of spring is now well over, there is still a varied range of




natives in bloom including *S. ceciliae* and *S. roseus* and their hybrids, *Dendrobium monophyllum*, *D. fleckeri*, *Calanthe triplacata*, *Cymbidium* species and *Phaius* species.

There are many pests and problems to watch for in the hot, humid weather of summer besides snails and slugs. A major pest in areas about north of Sydney is the Dendrobium Beetle. This well-known orange and black beetle can devastate plants such as *D. speciosum* which have large pseudobulbs as the lava eat them while hidden inside. The adults eat the flowers of species such as *Cymbidium madidum*. If you see a Dendrobium Beetle, catch it and squash it. The beetles fall to the ground when disturbed so put your hand or something under them. The lava and major infestations can be dealt with by appropriate sprays otherwise try to watch for them and destroy any grubs with a piece of wire inserted into the hole in the pseudobulb.

Other problems that arrive with hot weather include assorted fungal infections and rots. These will be more likely to occur in stagnant conditions with poor air circulation. There can be particular problems in hothouses so check your cooling system and fans regularly. Caterpillars, crickets and grasshoppers are always around to chomp lumps from new growths. Ants, worms and beetles can move into the media in pots. They particularly like big pots where there is usually coarser media and bigger air spaces for them to hide in and keeping the media moist the way the plants need it provides perfect conditions for these pests. Give your plants a really good soak every few weeks to discourage these pests from settling in. It can be difficult to know if root chompers are in your collection until it is too late as the very hardness of many native orchids means that they will not show any symptoms until all of their root system has been eaten. Be wary of an unusually large amount of leaf drop. There are sprays to deal with these pests.

Most Sarcanthinae do not like hot weather and should be kept as cool as possible. They also need high humidity. Some, such as *S. falcatus* and *S. fitzgeraldii*, suffer if really hot.

Repotting should have been done in spring before the new growth started. Repotting can be done now but be very careful not to break any of the brittle new growths while handling plants. Any plants that have already have a lot of new roots spread through the media might be better left until next spring rather than disturb them now unless there is a problem with aging media or the growths being distorted due to lack of room.

Our natives are tough and can withstand some neglect but plants in cultivation should not need to suffer as plants do in the wild under drought conditions. Fertiliser and water is available to growers to keep plants in their peak conditions but this same attention can cause problems overdone. It also provides perfect conditions for pests. Be sure your mounted plants have lots of moisture and good air movement is maintained throughout the collection and summer should not be too much trouble. 

## *Paphiopedilum*

Any outstanding repotting should be attended to early during this period as paphs.

really do not like very hot weather and there is no sense in adding the stress of repotting to the stress caused by heat.


The early part of this period is the time to attend to shading. Look for areas of clear glass and spots where the sun shines through open vents. The best conditions are really obtained when extra shade is added during summer and largely removed during winter. If you follow this practice the shade should be in place by now. If, however, you just add a bit extra shade during summer this is the time to do it. Over long leaves which tend to hang over the side of the pot are a sign of too much summer shade; short, upright, yellowish leaves indicate too little.

Regular watering and fertilising is the routine for this period of the year. Don't overdo it, even when the weather is hot. If the plants don't need water, and you feel you must do something, simply give them a misting with a fog nozzle. It is a good idea to get to know the weight of a pot when wet and when dry; this way you won't keep the plant too wet. The experienced grower can tell by the look of the plants when he needs to water – the leaves droop ever so slightly. Another good trick is to run your hand over the top of the leaves; when they are turgid they rustle – when they need water they don't.

During very hot weather it is good practice to water during the evening. This helps drop the night temperature; it also allows the plant to take up and retain water so that it is better prepared for the heat of the next day.

If you strike a plant which is droopy and dehydrated, even though the mixture is obviously moist, the odds are that it has no roots. Maybe it has been kept too wet. In any case it should be repotted into fresh mixture, no matter what the season. Repotting is usually sufficient but if you feel there is a major problem, a swim in Fongarid for twenty minutes or so (the plant, that is) will do no harm.

Keep an eye out for mealy bug and treat it early if you find it, as it can spread like wildfire. The only other problem you may strike is a fungal infection which appears in hot, humid weather and seems to affect only green-flowered paphs. This appears as small brown spots which quickly turn to holes through the leaves. The effect is almost as though somebody has

fired a shotgun – from some distance – at the plant. This does little harm but it is unsightly. It is easily cleared up with Ciba Geigy Rose spray. 

## *Phalaenopsis*

There is basically little change in culture from November except that now is the time to remove old flower spikes and repot. When repotting larger plants, just remove the old mix, cut off any rotten roots and pot the plants down in the same size pot or one slightly larger if necessary.

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**Watering:**— Water daily in the morning and damp down the floor in the afternoon if necessary. Try not to get too much water in the crown of the plants.

**Light:**— 90% shade is required during summer.

**Fertiliser:**— Fertilise weekly alternating between

- High nitrogen (Campbells B, Aqua feed or Aquasol).
- Wuxall Foliar.
- Organic (Fish Emulsion or Nitrosol).
- Phostrogen.

**Pest Control:**— Fungicide every six weeks with Ridomil MZ WP, Daconil, Wettable Sulphur or Mancozeb with Kocide.

Use Diazanone, Malathion or Pyrethrum to control scale and insects.

Keep a watch for mites and spray with a miticide as necessary.

If you use Wettable Sulphur as a fungicide it is also a good miticide. ■

## Vandaceous

**Potting:**— Potting on of small plants can be done at any time. Top any large plants which have become leggy, leaving at least three roots on the top. If possible some leaves should be left on the old stem to encourage kikie growth.

**Watering:**— Water daily. Keep root system moist with additional misting if necessary.

**Light:**— Strap leaf vandas and ascocendas need 50 to 70% shade. Other vandas 30%.

**Fertiliser:**— Fertilise weekly alternating over a four weekly period.

Wk.1. — Inorganic high nitrogen (Campbells B, Aqua feed or Aquasol).

Wk.2. — Wuxall Foliar.

Wk.3. — As for Wk.1.

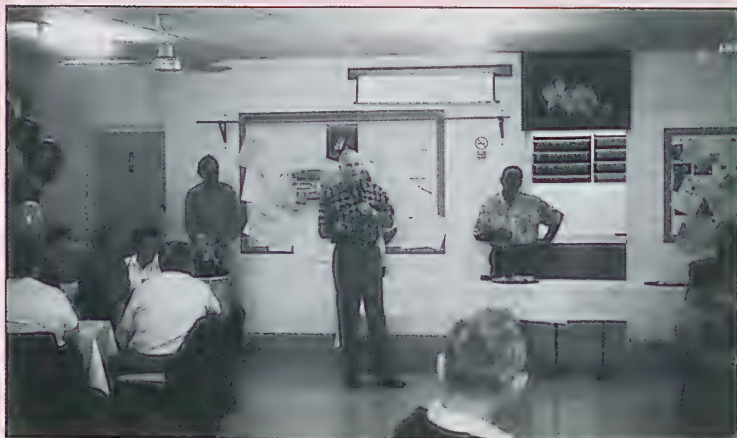
Wk.4. — Organic (Fish Emulsion or Nitrosol).

**Pest Control:**— Fungicide every six weeks with Daconil, Mancozeb, Ridomil MZ WP, or Wettable Sulphur.

Use Diazanone, Malathion or Pyrethrum to control scale and insects. ■

## Townsville Orchid Society Official Opening of Hall Extension

by Thelma Keith



Patron of Townsville Orchid society Inc. Mick Keith, addressing members and visitors at the opening of the new hall extension.

An official opening of the extension to the Townsville Orchid Society Hall was held on 8th July 2000.

The Society's Patron, Mr. Mick Keith, cut the ribbon to declare this extensive area open. Mr. Bill Barber, who was kind enough to draw up the plans for the building handed over the keys to the Patron after a few short speeches. Mr. Barber and his wife were our official guests for the evening. Many Society members attended this event, which was also a 'Christmas in July' mid year social evening.

Members from the local gardening club and other orchid clubs attended. Some were from out of town and a couple from Victoria (who were on holidays) were thoroughly enjoying themselves.

The event was fully catered for by a local catering business and so the work was mostly all done for us. A few of the ladies led by Gladys Jeffrey decorated the tables with balloon arrangements and an orchid arrangement graced the food table.

A very successful multi-affle was held later in the evening with our President Jim McArdle assisted by the Secretary, June Roggero and Show Chairman Col Neucom. This event, as always, was a little hilarious at times with Jim and Col doing a great duo act calling the winning numbers.

Congratulations must go to David Jeffrey, building committee Chairman this year. He would not rest until the building was completed. And it was! —

before GST too!! David did a lot towards the building himself — which the Patron recognised. Though David insisted the hard work was over, when the money was raised. And I guess everyone who worked for the success of the APOC in 1998 and earlier the Australian Orchid Conference in 1983 made the ownership of our hall, and now the extension, the reality it is today.

The hall is successfully rented out to other groups and events not related to the Townsville Orchid Society. Townsville orchid events including Tropical Queensland Orchid Council Inc. meetings, North Qld. Judging group meetings and Field Days held in Townsville of course make use of this suitable venue. We have a lockable library and a computer to check the families of orchids. A self contained kitchen makes entertaining easy.

The only other Orchid Society I have known to own their own premises is the American Orchid Society (Please correct me if I am wrong.) We decided to buy the hall in 1984 when it was offered for sale. We were holding our meetings there and the Junior Football Club decided to sell. Up until that time the orchid society had held their meetings in various rented buildings over the years, moving on whenever (for whatever reason) it was necessary.

The Townsville Orchid Society inc. was founded on 20th June, 1947. Our meetings are held on the fourth Friday of each month (excluding December). All visitors are welcome. ■

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# *Liparis latifolia* (Bl.) Lindl.

by Jim Cootes

**L***iparis latifolia* is a commonly grown orchid in many countries. It is usually cultivated under the name *Liparis nutans*, which is a totally different species.

True *Liparis nutans* belongs to the section *Distichon*, which is characterised by the flattened inflorescence where the flowers open over a long period of time. I don't believe any plants of this species are in Australia. *Liparis latifolia* is a member of the section *Cestichus* and the blooms generally open all at the same time.

## Plant History:

Carl Blume first described this most attractive species as *Malaxis latifolia* in 1825. Dr. John Lindley transferred the generic name to *Liparis* in his *Genera and Species of Orchidaceous Plants* in 1830. The specific name refers to the wide leaves of this species.

## Plant Description:

Growth habit: upright, sympodial. Pseudobulbs: up to 7 cm high by 4 cm wide and are distinctly flattened; usually bearing one leaf but occasionally two leaves. Leaves: up to 20 cm long by 5 cm wide. Inflorescences: upright, bearing up to 80 blooms about 1 cm in diameter. Flower colour: reddish-brown; anther cap is green. Dorsal sepal: oblong, 6 mm long by 2 mm wide. Petals: up to 6 mm long by 1 mm wide. Lateral sepals: oblong, up to 6 mm long by 2 mm wide. Labellum: tapered, toothed around the

front edge, about 1.2 cm long by 5 mm wide (when flattened).

## Habitat and Distribution:

*Liparis latifolia* is a very widely distributed species and it has been recorded from China, Malaysia, Thailand, Indonesia, Borneo, Timor, New Guinea and the Philippines. It grows as an epiphyte at elevations of between sea level and 1,100 metres.

## Cultivation:

*Liparis latifolia* is a very easy orchid to grow and flower provided it has a winter minimum of at least 12 degrees

Celsius in cooler climates. I grew my plants in a bark (70%) and pebbles (30%) mix and also pure sphagnum moss and always kept the plants damp. They were under 70% shade cloth, had constant air movement, high humidity and were regularly fertilised with both organic and inorganic fertilisers at half of the manufacturer's recommendation. Normally flowers in the autumn, but blooms can appear at any time.

## Notes:

The most endearing feature of this species is the colour of the plant. It is reddish in colour as if it is sunburned. Even the root tips are orange!!!

*Liparis latifolia* is a most attractive species, which is worth a place in any species collection. You will probably see it offered as *Liparis nutans*, from the

Philippines or the USA.

## References:

- Banks D.P. (1999) *Tropical Orchids of Southeast Asia*  
Chan C.L. et al (1994) *Orchids of Borneo Vol. 1*  
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## Acknowledgments:

Thanks to David Titmuss for the slide used to illustrate this article.

Jim Cootes

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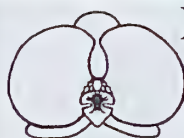
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# Looking at Orchid Houses from the Outside

Text and photographs by Rex Johnson

In Tasmania, orchid growers are as much interested in the housing of their orchids as they are in the plants themselves. Anyone at all serious in growing orchids in Tasmania must have some form of protection for them in the winter months. Many areas can get by with shade-house conditions in spring, summer and autumn, but the frosts in winter force all growers to have at least a solid cover over their orchid houses.

Some orchid collections started with a few cymbidiums under a shady tree and progressed to polythene covered wooden frames. These are still used and are basically quite adequate in the mild coastal areas, particularly for those who only grow cymbidiums. At the other end of the climatic scale are glasshouses with two or three layers of polythene "skins" inside them to maintain a heated area up to 20°C for the growing of *Phalaenopsis* when the outside temperature can get as low as -5°C during the night.

Summer temperatures can cause just as many problems in reverse, especially with the houses that have internal insulation. They can get quite hot when the outside temperature rises to 30°C and the inside temperature invariably creeps higher. To help control these situations, extra shade-cloth, lime spray and evaporative coolers come into force.

Barry Dudman's orchid houses are those that "grew" from a sheet of plastic over a wooden frame, in a set of rather temporary structures – that have been temporary for the last 30 years! As Barry lives at Somerset (near Burnie) and is right on the coast of Bass Strait, frosts are rare and the temperature rarely gets above 28°C in summer. Because of the rustic nature of the orchid houses, and being built under and near many large trees, free air movement and extra shade is not a problem. Barry exhibits every year at Burnie spring show with at least a four metre square display and always features in the prize list. While his collection is dominated by cymbidiums, he also grows and flowers *odon-toglossums*, *Sarcochilus*, *dendrobiums* and Tasmanian terrestrial orchids.

Many colleagues agree that the best hobbyist glasshouse in Tasmania is the one owned by Anthony and Irene Maney at Devonport. A commercially built house, it



Barry Dudman's orchid houses that just "grew".



Anthony & Irene Maney's superb glasshouse.





Rex & Lynn Johnson's glasshouses at Underwood.



David Painter's orchid structures at George Town.



Margaret Hergert's glasshouse and plastic-clad house.

is high, wide and handsome. The four-metre height and gable roof give very good air movement and with adjustable louvre windows on both sides, fresh airflow is ideal during the summer. Internal retractable shade blinds are installed in the roof and roll up shade cloth on the outside of the walls give shade and temperature control. Frosts are not a problem in this part of Devonport and winter heating is not required for what is primarily a fine *Cymbidium* collection.

There are cooler areas in Tasmania and Rex and Lynn Johnson live in one of these frost prone areas. One would wonder why they would want to grow orchids in such a difficult climate. Although they started with a 2 x 4 metre glasshouse, this was soon replaced with a 6 x 13 metre glasshouse and later a 6 x 30 metre one was also added. The latter house, used solely for cymbidiums, has a polythene liner and a heated fan system – just sufficient to stop the sub-zero temperatures from damaging flower spikes during the winter. The other smaller orchid house has been sectioned into three areas – for cattleyas, *Phalaenopsis* and Australian natives orchids. The cattleyas and natives have a double polythene skin under the glass and the *Phalaenopsis* area is totally enclosed in a triple skin and kept warm with a fan heater. This house has an evaporative cooler, which keeps the temperature below 27°C in summer.

George Town is at the mouth of the Tamar River and also on the shores of Bass Strait. Here lives David Painter, who has one of the newest orchid houses in Tasmania. He exclusively grows cymbidiums and has opted for a treated pine structure, with opening aluminium windows and a clear plastic corrugated roof. To take advantage of the coastal sea breezes, the house has adequate ventilation apertures between the walls and the roofing.

Small glasshouses are ideal in backyards, but soon become too small for a miscellaneous collection, so Margaret Hergert had to make a modest addition. The glasshouse now hosts a collection of masdevallias, whilst the addition is full of cymbidiums and Australian natives. Margaret used a Tasmanian hardwood timber frame for her addition and covered the walls with solar weave. Corrugated fibre-glass sheeting was used for the roof. Living in Launceston, she found the winter temperature a bit low and so lined the wooden frame with clear polythene sheeting to keep the frost out. For a suburban backyard it is a good set-up.

But remember, when planning your orchid houses, to make them twice as big as planned, as you will fill them in half the time!





# Cymbidiums

## KING OF THE ORCHIDS

PRESENTED BY THE AUSTRALIAN CYMBIDIUM SOCIETY INC.

### Editor's Report

Early September saw the staging of the fifth annual National Cymbidium Orchid Show in Ararat, Victoria. A full report of this successful show from one participant's perspective appears in this issue. What began as a brave and insightful concept only a few short years ago has now become a respected and keenly anticipated orchid event, attracting attention both within Australia and from overseas.

Driving home from Ararat after this year's show gave me time to reflect on the progress made since the inception of the Australian Cymbidium Society and the birth of the National Show concept. While delegates from each state club will be attempting to finalise national show schedules, show rules and judging standards, in the near future, thereby standardising conditions for all future national shows I believe we sometimes tend to overlook the levels of cooperation, good will and compromise between the states which have made previous shows the resounding successes they have proven to be. I also wonder if we really appreciate the many benefits the creation of the ACS and annual national shows have presented to *Cymbidium* enthusiasts, whether hobbyists or commercial.

The "gathering of the clans" event the national shows provide creates a venue for all of us to enjoy some of the best new cymbidiums available from each state, overcoming the tyranny of distance which can isolate us and restrict exposure to new ideas, growing methods and, of course,

new breeding trends. Such shows give us the chance to meet each other face to face, to form new friendships, perhaps to establish business relationships, to swap and trade and, importantly, to learn from and about each other, while enjoying the camaraderie provided by our common interests in cymbidiums. Every *Cymbidium* enthusiast who returns home from a national show excited by what they saw and experienced helps to strengthen the *Cymbidium* scene in Australia, to the benefit of us all.

The overall high standard of cymbidiums exhibited at Ararat, the quality of the displays, the effort put into them and the enjoyment evident on the faces of those attending and participating fired my own enthusiasm for next year's national show in NSW. Roll on 2001!

Also featured in this issue is an article from New Zealand's Ross Tucker who recently visited Australia at the invitation of (and thanks to) the Cymbidium Orchid Society of Victoria. Ross outlines his involvement in New Zealand's hobby and commercial *Cymbidium* scene and discusses his hybridising work. Brian Milligan shares his experiences with propagating cymbidiums from back bulbs and some helpful hints on the subject. Carolin Allen relates club news from the COSV social meetings during August and September, and Dean Roesler reports on the Cymbidium Club of South Australia's spring show and recent awards.

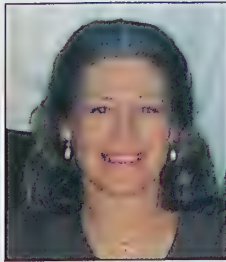
Good reading, growing and showing...

**Rob Smith**  
Editor

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### HOW TO JOIN A CYMBIDIUM CLUB IN YOUR STATE

#### CYMBIDIUM CLUB OF AUSTRALIA INC.

Meetings are held on the 2nd Thursday of each month (except December, January and February)

Meetings commence 8.00 p.m.

Venue: Lakemba Chapter Remembrance Hall,  
220 Lakemba Street, Lakemba, Sydney, N.S.W.

For further details contact

Secretary, William Jablonski,  
Orchidland Nursery, 7 Nicholli Place,  
Kenthurst, N.S.W. 2156  
Phone: (02) 9654 9464,  
AH (02) 9654 8189

President, Greg Bryant,  
Phone: (02) 9668 9374

#### CYMBIDIUM CLUB OF SOUTH AUSTRALIA INC.

Meetings are held on the 4th Wednesday of each month (except December and January)

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Beginners' Group commences 7.20 p.m.

Main Meeting commences 8.00 p.m.

Venue: Masonic Hall, Fisher Street,

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For further details contact

Secretary, Yvonne Longbottom,

12 Joanne Terrace,

Parafield Gardens S.A. 5107

Phone: (08) 8258 3435

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13 Knight Street,

Wembly Downs, WA 6019

Phone: (08) 9341 1570

President, Christine Jamieson

Phone: (08) 9249 1648

Email: cz85jac@ozemail.com.au

#### THE CYMBIDIUM ORCHID SOCIETY OF VICTORIA INC.

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Main Meeting commences 8.00 p.m.

Venue: Mt. Waverley Youth Centre,

Millers Crescent, Mt. Waverley, Victoria.

For further details contact

Secretary, Kevin Brown,

4 Riviera Street, Mt Waverley, Victoria 3149

Phone: (03) 9808 1224

President, Ken West,

Phone: (03) 9725 7513



# A Report National C Orchid S

Text and photographs



Champion Display - G Coutts/K West/T Poulton.



Australian Cymbidium Society (NSW) display.



The Rural City of Ararat's display.

On the 9th and 10th of September 2000 the National Cymbidium Orchid Show returned to the site of the inaugural national show, the Town Hall, in the Rural City of Ararat. It can be hard to say (not to mention a very subjective thing) if one show was bigger and/or better than any that have gone before it, but anyone who visited Ararat for this year's show would have seen a stunning display of quality cymbidiums. Some twenty-nine stands from approximately one hundred exhibitors, both hobbyist and commercial, created a spectacle to rival any orchid show ever seen in Australia and the equal of many held around the world.

The variety of flowers, quality of hybridising, culture, presentation and the sheer effort and inventiveness which went into the various displays, surely showcased Australian *Cymbidium* enthusiasts in the best possible light. Growers, both hobbyist and commercial, from around Australia and from as far away as Hawaii and Holland expressed their approval of the show and of the atmosphere evident over the whole weekend.

I don't know how others feel but, for me, the orchid shows held at Ararat have always had a special atmosphere, whether they are the National Shows, or the annual COSV Cymbidium Orchid Festival sponsored by the Rural City of Ararat. Just going to this historic country city surrounded by such beautiful scenery feels like a holiday weekend. The Town Hall provides an environment for people to gather and chat (mainly about orchids of course) and the regular visitors and exhibitors all seem to have their favourite places to either eat or visit each trip. Of course, a show such as this just could not be staged without the sort of enthusiastic and financial support provided by the city's council and local businesses, who get right behind the annual event. With Van Schaik's BIO-GRO Pty Ltd and Scott's Australia Pty Ltd undertaking sponsorship of the National Cymbidium Orchid Show the stage was set for a fine



# Part of the Cymbidium Show 2000

by Rob Smith

occasion offering significant prize money and confirming that if you are serious about cymbidiums, either commercially or as a hobbyist, then national shows are not to be missed.

Before reviewing the various winners, I must comment on the large percentage of quality new hybrids and seedlings exhibited throughout the show. Virtually every stand displayed new grexes which, for an amateur hybridist and enthusiastic grower of seedlings, was an extra plus. It must surely bode well for the future of cymbidiums in Australia that so many growers apparently now grow seedlings and that, in many cases, the quality and potential of those shown was so high. Certainly, there were many examples of excellent well known grexes, well cultured and well presented, but it's hard not to feel that in many classes we were seeing a changing of the guard, so to speak, with a substantial number of the newly-bred promising much.

Among the displays, the state clubs did themselves and their members justice with some splendid cymbidiums. The effort (and expense) involved in the Western Australian display had to be admired, with props shipped to Melbourne, collected and then brought by road to Ararat to construct their whimsical display, entitled "Orchids at Play", using a children's playground theme complete with climbing bars and slippery dip. New South Wales' growers brought a very large van full of plants in pots and cut spikes to build a tiered display ranging from specimen plants to towering cut spikes of quality standards and pendulous miniatures - another great effort and a strong gesture of support for the national show concept which will, hopefully, be reciprocated by other states when NSW hosts it in 2001. Ultimately, the display staged by Victoria won the John Mata Trophy for Best Display by a Club, in a very tight vote. Again, a tiered format was used, with foliage plants and imitation birds adding to the theme "Orchids in Paradise". Several of the major champion class winners were featured in this display



Ezi-Gro Orchids display.



Grand Champion Cym. Valley Splash 'Awesome' - David Wain.



Champion Intermediate Cym. Gentle Touch 'Bon Bon' - Imre Takacs.





Champion Cut Stem *Cym. Lunakira 'Gleam'* - Bryant's Orchids.



Champion Seedling Large Flower *Cym. Khan Flame 'Tuscanny'* - Kimberley Orchids.

including: Champion Miniature (also Champion Specimen Miniature) - *Cym. Sarah Jean 'Ice Cascade'* - Paradisia Nursery; Champion Specimen Intermediate - *Cym. Lancashire Ruby 'Paradisla'* - Paradisia Nursery; Champion Species - *Cym. parishii* - Ann and Neil Siviour; and, Champion Seedling Miniature - *Cym. (Sarah Jean x Sweetheart) 'No. 2'* - Paradisia Nursery. The Cymbidium Club of South Australia presented a display of cut spikes with a large percentage of miniature and intermediate sized blooms and among the dainty miniatures were a number from the collection of Malcolm and Velda Osborn, who are well known in *Cymbidium* circles as specialists in that class.

The standard set by those displays featuring themes was very high, providing the Victorian and interstate judges with some tough decisions. When all judges' votes were finally tallied, the display by G Coutts/K West/T Poulton was judged as the Champion Display and awarded the Gold sash, with D & C Allen/R & N Smith receiving the Silver sash for Display Incorporating a Theme, and the Bronze sashes being awarded to P & L Williams, and to T Poulton.

In the Commercial Display section, Kimberley Orchids won the Silver sash, with Bronze sashes being awarded to the Rural City of Ararat and to A & J Leamon. In the Hobbyist - Large Display section, G Spear won the Silver sash, with Bronze sashes being awarded to J Kenter and to K Purcell. In the Hobbyist - Small Display section P & R Gibson won the Silver sash, with Bronze sashes being awarded to I Takacs, and to D & C Allen/R & N Smith.

The show featured so many top quality individual cymbidiums that it would be impossible to list even a small percentage of them in these pages because, in spite of being involved in some sections of judging, and walking the hall over the following two days admiring and photographing, I still found that I was discovering flowers I hadn't "seen" before late into the Sunday afternoon! Despite what I've just said, the following grexes are some that either caught the judges' eyes, or caught mine, even if they didn't win a major prize.

First mention must go to a number of plants displayed by Victoria's David Wain, which included the Grand Champion and Champion Large Flower - *Cym. Valley Splash 'Awesome'* - which carried two upright racemes of fifteen and eleven blooms, respectively. Size was good and the flowers were fresh on a very well grown and presented plant. David also won Champion Commercial Pot Plant Type with a fine flowering of *Cym. One*



Champion Miniature/Champion Specimen Miniature

Tree Hill 'John's Quest' which carried counts into the mid-teens on each spike. David also did well in a number of other classes and is obviously a name to watch out for at future shows.

Among the Large Flower classes, many well-known growers and nurseries benched a number of top quality grexes. Bryant's Orchids from NSW exhibited many from their own breeding program with bests in their classes being awarded to the stunning red *Cym. Red Adair*



Champion Seedling Intermediate *Cym. (Sarah Jean x Sweetheart) 'No. 2'*





Sarah Jean 'Ice Cascade' - Paradisia Nursery.

'Springfire', the yellow *Cym.* Surman's Delight 'Patrice', and the pink *Cym.* Khan Flame 'Raquel'. Champion Cut Stem was won by *Cym.* Lunakira 'Gleam', with other cut stem colour classes being won by *Cym.* Blazing Fury 'No. 5' and *Cym.* Khan Flame 'Odjam', among others. Kimberley Orchids from Victoria had the Champion Seedling Large Flower in their display, a distinctive rich dark brown *Cym.* Khan Flame with a striking red-banded lip carrying the cultivar name of 'Tuscanny'.



ch Lomond) x Logfire] - Ken Purcell.

Their large pastel *Cym.* (Cronulla x Alegria) 'Savannah' was best in its class, as was their *Cym.* Kimberley Downs 'Clover Flush' in the Arching/Decorative Spike class. Kevin Black from NSW won Best White Large Flower with an impressive flowering of *Cym.* Joans Charisma 'Vanity', and Victoria's Terry Poulton won Best Green Large Flower with his *Cym.* (Borough Green x Wyanga) 'Tee Pee'. Champion Specimen Large Flower was won by A & J Leamon with *Cym.* Clarisse Austin 'Rust', and G Spear did well with his *Cym.* (Yowie Flame x Chocolada) 'Tennyson' in the Specimen Large Flower class.

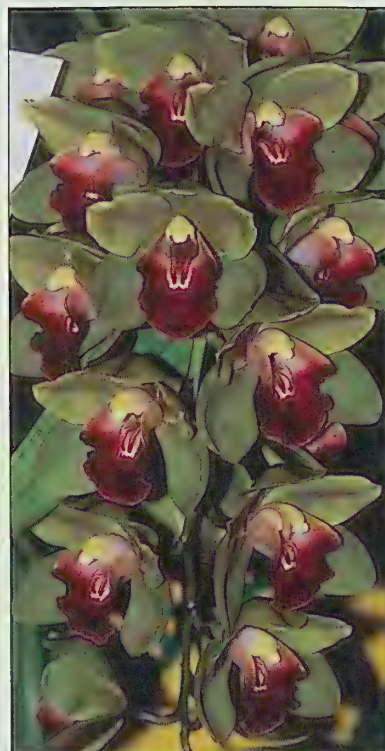
Among the Intermediate classes, I Takacs proved he could grow excellent cymbidiums in Rockwool with his Champion Intermediate *Cym.* Gentle Touch 'Bon Bon', also winning Best Yellow Intermediate with a fine flowering of his *Cym.* One Tree Hill 'Solstice Gold'. Best White Intermediate went to the eye-catching *Cym.* Lochinvar 'Glydoo Glory' owned by K Moss & A Murphy. The distinctively coloured and shapely *Cym.* [(Sarah Jean x Loch Lomond) x Logfire] won Champion Seedling Intermediate for K Purcell. Looking through the colour classes: *Cym.* Pearl Dawson 'Royale' from Royale Orchids in NSW carried solid red lips against predominantly green tepals; A & J Leamon exhibited various deep-red coloured cultivars of *Cym.* (Valley Regent x Ruby Eyes); D & C Allen showed their pink-blushed *Cym.* Gleneagles 'Cooksbridge Advent'; and, the M Bray/D Keanelly-combined stand featured *Cym.* Winter Fire 'Splash', *Cym.* One Tree Hill 'Doris' and *Cym.* Cherry Cola 'Feathered Friend' from D Keanelly, and *Cym.* Volcanic Flash 'Fiona' from M Bray, among their large display of mainly quality large-sized flowers.

Among the Miniature classes, *Cym.* (Phar Lap x Celtic Imp) and *Cym.* Memoria Andy Warhol 'Green Apple' were eye-catchers from the Ezi-Gro Orchids stand. Also attracting attention in the miniature classes was P Hestelow's well flowered specimen plant of *Cym.* Music Box Dancer 'Ballerina'. High flower counts of dusky-pink blooms on tall, erect spikes made K Black's *Cym.* Richard Tauber 'Genesis' a stand-out. Others included E Kettle's *Cym.* (Doctor Baker x *devonianum*) in the Brown class and *Cym.* (Tethys x Miss Muffett) = Idyllic Glamour in the Novelty class.

Of further interest, one of the most colourful stands in the hall was the Ezi-Gro Orchids stand. Kevin Butler and his team exhibited stunningly coloured kimonos and Japanese screens, pots and



Best Predominantly Pink Miniature *Cym.* Richard Tauber 'Genesis' - Kevin Black.



Third place, Any Other Colour Intermediate *Cym.* Pearl Dawson 'Royale' - Royale Orchids.



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## CYMBIDIUMS AUSTRALIA

accessories, along with fan-like arrangements of cut stems across all size classes. Valley Orchids, now owned by Graham Morris, staged an Olympic theme display featuring many new seedlings, mainly in the red Large Flower class, promising a taste of things to come from that famous name. As you would expect in the year 2000, the Olympics provided the inspiration for several growers with P & R Gibson also mounting a bright display centred around pedestals draped in the Olympic colours.

At the Dinner/Dance on the Saturday evening, the Valley Orchids' name featured again as Dean Roesler, on behalf of the Australian Cymbidium Society, presented the Award of Recognition for Services to Cymbidiums to Bob Nicolle, who's work in Cymbidium hybridising (initially with Merv Dunn, prior to his passing) and in the development of professional commercial practices in cymbidiums which made Valley Orchids world famous and produced a long and impressive list of popular, quality hybrids, many with awards to their names, together with their development of tetraploid pure colour cymbidiums being another major contribution, along with such famous hybrids such as Cym. Valley Regent, Cym. Valley Zenith and Cym. Valley Splash, among many others.

The amount of work put into preparing plants and props, erecting the stands and arranging the plants can only come from a level of enjoyment from *Cymbidium* growing that still impresses me. What other reason could there be? I know that, for myself, the 2000 National Show, held in the Rural City of Ararat, inspired and enthused me on the weary drive home and both Noe and I were filled with ideas for next year's display when we all return to Sydney for the National Show in 2001, to be held in an exciting new venue, currently being finalised with Swane's Nursery, one of Australia's premier nursery groups. With Van Schaik's BIO-GRO Pty Ltd once again committing their support and securing the naming rights to the National Cymbidium Orchid Show 2001, major steps toward yet another spectacular and first class event are in place.

Win or lose, just being at a national show, with a lifetime's worth of flowers, great friends, conversations and, the pride of sharing in the greatest display of cymbidiums staged anywhere in the world - who wouldn't be there if they could? See you in Sydney!

**Rob Smith**  
24 William Hunter Court  
Rosebud, Victoria 3939



# Tuckers Orchid Nursery in New Zealand

Text by Ross Tucker - Photography by V Bayliss

New Zealand has an ideal climate for the growing of cymbidiums, especially in the North Island, and this has created an export industry which produces some \$30-40 million every year. My own business is based on three distinct markets - cut flower, pot plant, and hobby grower - with these three demanding different criteria to meet their requirements.

The cut flower grower wants cymbidiums that will produce consistently, with multiple spiking and a good number of flowers per stem (around ten for standards and twelve for intermediates). They also require a clear, uniform and distinct colour. For example, if it is a pink, then it is a soft pink or a hard pink that is looked for. The main commercial colours are white, pink, green and yellow. The pot plant market requires a good number of spikes in a six to eight inch pot, with a definite demand for strong and uniform

colours. Unlike the cut flower grower, the pot plant grower wants lots of colours, shapes and sizes, as well as combinations, as "Someone will love it because its 'different', or 'Hasn't seen one like that before.'" The hobby market is by far the smallest group of purchasers, with their demands being for size, "The bigger, the better," and for shape, "The rounder, the better." These are the hardest criteria to breed for, yet hobby growers do not currently pay a premium for the best of the bunch and it's been my experience that, more often than not, they are prepared to trade plants between themselves even if those plants are twenty to thirty years old and to also be the most vocal group when there aren't any new varieties to be had, in spite of nurseries going out of business because of lack of patronage.

Both my nurseries are situated on Auckland's North Shore, one at Bayswater

and the other at Redvale. I currently have over 100,000 orchid plants of all sizes and flowers in production, this total being made up of over 20,000 each of different types, mainly cymbidiums, zygopetalums, odontoglossums, cattleyas and Australian dendrobiums. Each year we look at 15,000 new seedlings and, last year, we kept a dozen that fulfilled our requirements for mericloning, with all the rest being sold.

My experience in breeding extends over thirty years and, currently, exceeds some 10,000 successful hybrids (and many more that were unsuccessful) in the different genera. My breeding programs tend to work backwards in the sense that I may think of a goal myself, or I may receive a request like, "I want an orange *Cymbidium*." From there, I find some parents that will give me orange colours, or orange-like colours, and cross them together. Once you have a successful pod



*Cym. Zig Zag 'Kiwi' HCC/NZOS.*



*Cym. Kiwi Cutie.*





*Cym. Kiwi Cutie 'Spot On'* HCC/OCNZ



*Cym. Kiwi Cutie 'Ocelot'* HCC/OCNZ, B/GSA.

the next step is to determine how many of that cross you can fit into the system as it always comes down to the difficulty of having too many plants and not enough space, no matter how big your glass house is. I find that natural selection of the strongest and fittest, together with only choosing the front runners of a cross and dumping the rest, takes care of a lot of

these problems. I have observed that most new growers seem to try to grow every orchid they have by squeezing them all in, usually to the detriment of all when, in my opinion, selecting the best and culling the rest is probably the best option for seedling cymbidiums.

To illustrate what has flowered at our nursery over the last couple of years I will

start with the smallest as I was once a bit annoyed with some Masdevallia growers who chided me with their view that cymbidiums were like huge flax bushes and were too big to handle so I tried miniaturising cymbidiums and *Cym. Zig Zag* 'Kiwi' has been one result. It is a crossing of *Cym. Peter Pan* with *Cym. devonianum* and it created a plant that, over four years ago, flowered in a two inch (40mm) pot (so even the oldest and weakest "Massie" grower would be able to lift it) and it also has the advantage of two distinct flowering seasons, one in February/March and the other in September/October of the same year, and off the same bulb. This is exactly what the pot plant market wants as if you don't sell the first flowers, then you don't have to wait a season to get the next crop of blooms. To date, it has flowered consistently for over four years producing one or two spikes at each flowering and is still in a four inch (10cm) pot. Many more of this type of early and late combinations are now on the market but few are as miniature as *Cym. Zig Zag*.

Another cross I created using *Cym. devonianum* was with *Cym. Robin* 'Freckles', duly named *Cym. Kiwi Cutie*. If you like pendulous cymbidiums with heavy markings on the flowers, then this is the cross for you - small, petite blooms



*Cym. Kiwi Green 'Bayswater'*



with either a green or a brown base, heavily overlaid with red dots, free flowering and, usually, exhibiting the wide *Cym. devonianum* leaves.

In the truly miniature range of cymbidiums, shape is not yet an important factor, but colour and attractiveness, or a pretty flower, and having some unusual characteristics makes it worth creating more and different varieties of these types, which are now in the pipeline.

With the intermediate/novelty type of cymbidiums, shape has a more important role and the mixing of standard and miniature has improved these to the point where some are half-size versions of the standard flower. Many of these have the advantage of flowering earlier in the season than the standards and can, therefore, command a premium in the cut flower industry, but must now have clean, clear, distinct colours and a long-lasting shelf life. These characteristics also spill over into the pot plant market, so creating clear colours is important for this type of breeding.

*Cym. Kiwi Green* 'Bayswater' (Showgirl x Fanfare) is a strong apple-green which does not stain on the back of the flower when subjected to high light. It has a tendency to flower early in the season (May/June) on very strong spikes

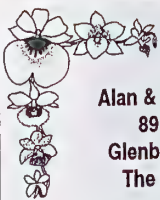


*Cym. Abacus* 'Bayswater'.

with, sometimes, up to twenty flowers on a stem, and it has a very distinct red lip with a white border. *Cym. Abacus* (Sir Brent x Fitzgerald Glade) is now the third generation I have line bred. Although the colour is a creamy white, not yet perfect, the shape is impressive, being full and round with overlapping segments, and it produces multiple spikes from each bulb and flowers in May/June. The shape is dominant and will create even more filled-

in intermediate-sized flowers in the near future.

The standard-sized flowers have been the most successful, with a range of colours and improvements in shape. Using *Cym. Solana Beach* with *Cym. Fitzgerald Glade* created *Cym. Kylie's Own* 'Wattle Downs'. This was exhibited by Bruce Corsbie of South Auckland, hybridised by myself, and was the only standard *Cymbidium* awarded by the New Zealand



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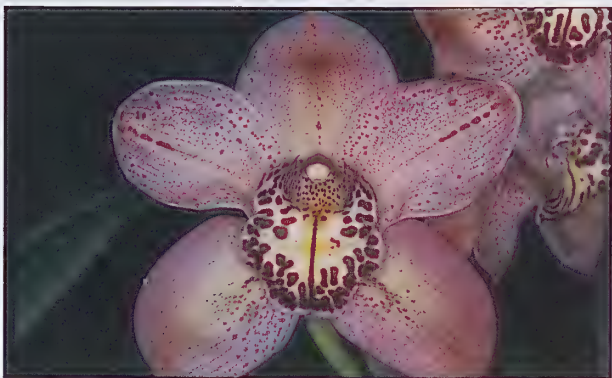
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# Striking Cymbidium Back-Bulbs

Text by Brian Milligan – Photography by Rob Smith

One of the first lessons that I learnt as a young scientist was never to use jargon when writing about my work. My old professor would turn in his grave if he could read the above heading.

Can you imagine someone who had never grown an orchid previously trying to work out which was the back-bulb in a pot of cymbidiums and hitting it with a hammer! And then trying to work out why!

For the benefit of novice growers I should explain that a back-bulb is a bulb that has lost all its leaves, hopefully because of age rather than disease. When a *Cymbidium* is repotted, it's desirable to remove these leafless bulbs, preferably by severing the rhizome linking them to the rest of the plant. It's best to use a *sterile* knife or scissors, but some growers simply twist the connecting rhizome until it breaks.

Having removed the back-bulbs, how do you 'strike' them and why? 'Striking' is jargon for encouraging the back-bulb to produce new growth from incipient leaf nodes, which are mostly located near the base of the bulb. To prepare a back-bulb for 'striking' first remove any old leaf husks, as these may harbour scale and other insect pests. Then, cut any residual roots back to their junction with the back-bulb and trim the break, if the bulb was removed by twisting. To minimise infection by any of the organisms responsible for rot the cut surfaces should be sealed, either with Steri-Prune (or similar sealing paste) or by leaving the bulb lying in the shade for a few days for the cut surfaces to form a scab or callus. Alternatively, the cut surfaces can be dusted with a fungicide. Leaving the back-bulbs to dry for a few days is the simplest option.

There are many different ways of striking back-bulbs and if I claim that one is better than another I am bound to be inundated with 'Letters to the Editor' (maybe that's not such a bad idea). I've used several methods for striking back-bulbs, each with a fair measure of success.

The simplest method, involving least effort, is simply to bury the back-bulb to two-thirds of its depth in the same potting medium that you use for the rest of your collection. If you use a four inch pot then no attention will be needed for two years except regular watering and the addition of a little slow-release fertiliser in spring.

Some back-bulbs strike more rapidly than others. If a leaf growth appears within three months you're doing well,



Cleaned back-bulb showing eyes and ready for potting up.

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Struck back-bulb showing leaf length about right for separation and repotting.

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while six months would be average. If there's no sign of growth within 12 months all but the super-optimist should give up (there are always a few back-bulbs each year that fail to strike). Generally, roots do not appear until the leaf growth is several inches tall, and there is no point in applying slow-release fertiliser until this stage is reached. If you're keen, there may be some benefit in applying liquid fertiliser to the foliage at an earlier stage as liquid fertilisers are absorbed by leaves as well as by roots.

In recent years I've struck back-bulbs of my more highly valued cymbidiums using *Sphagnum* moss as the potting medium. This method seems to produce more rapid growth, but that's probably because I place the pots in my heated glass-house during winter. After about a year the moss is removed and replaced with conventional *Cymbidium* mix.

Some growers have used a modification of this method for many years. The backbulbs are placed in a plastic bag with a little very wet *Sphagnum* moss and the bag is then sealed and hung in the shade-house. No watering is necessary and the appearance of leaves and roots can easily be seen if a transparent bag is used. The struck back-bulbs are potted in *Cymbidium* mix when the leaves and roots are a few inches long. A disadvantage is that sometimes the roots and leaves don't grow in opposite directions because the bag restricts them.

Other growers swear by the use of damp sawdust, peat moss or sand as the striking medium and I've read that some American growers use damp newspaper. The old back-bulb eventually rots and it should be removed from the new plant as soon as rot is detected (or preferably a little earlier, if you're psychic!). While the bulb is in good condition it provides the plant with nutrients, so it's best to leave it attached as long as possible.

On the other hand, some growers remove the old back-bulb as soon as the new plant is deemed to be sufficiently advanced to support itself and then try to make it strike a second time. It often works, particularly with large back-bulbs, although the chances of the bulb rotting during its second year are much greater, of course.

So, novice grower, now you know how to increase your *Cymbidium* collection. But be warned - it takes four years on average for the new plant to reach flowering size and if you strike all your back-bulbs you will soon have to move to larger premises!

Brian Milligan  
35 Tannock Street  
North Balwyn Victoria 3104



# Cymbidium Orchid Society of Victoria

## August and September 2000 Meetings Report

Text by Carolin Allen – Photography by Sean Moore & Ken West

### August

Ross Tucker from New Zealand was our guest speaker for the August meeting and the scene on arrival at the meeting hall was

one of members busily ferrying their purchases from him out to their cars. Ross's talk was informative and well illustrated by a comprehensive slide program which produced many oohs and aahs in response

to the various new and interesting cymbidiums seen, and a more detailed feature article on his presentation on the night is published in this issue of AOR.

A very good selection of plants were benched at this meeting and quite impressed our overseas visitors, with the competition winners being as follows: Judges Vote, Best Seedling Overall and Best Seedling Intermediate Flower Type was *Cym.* (Valley Regent x Red Pepper) exhibited by D Wain, which was also awarded a COSV Certificate of Excellence for Superior Floral Display – congratulations David; Best in Open Section was *Cym.* Kiandra 'Meg' exhibited by D & B Noble; Best in Intermediate Section was *Cym.* Sarah Jean 'Jennifer' exhibited by T Antoniou; Best in Novice Section was *Cym.* Valley Zenith 'Top Spot' exhibited by T & J Williams; Best Species was *Cym.* *dayanum* exhibited by M & S Early; Best Seedling Large Flower Type was *Cym.* Khan Flame exhibited by P & J



*Cym.* (Valley Regent x Red Pepper).



*Cym.* Khan Flame.



*Cym.* (Valley Zenith x Kelly's Winter).



*Cym.* [(Dolly x Sleeping Dream) x Summer Clouds].



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*Cym.* (Mary Pinchess x Pearly Pepper).



*Cym.* (Dolly x Miretta).

Sunderland; and, Best Seedling Miniature Flower Type was *Cym.* (Mary Pinchess x Pearly Pepper) exhibited by D Wain.

## September

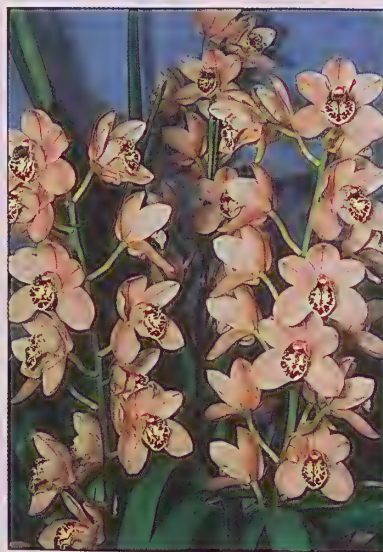
Having only two days to recover from the National Show at Ararat, there were quite a few "tired" members attending our September meeting and, surprisingly, a very good number of fresh plants brought in for the competition bench. We also welcomed back our travelling Secretary, raring to go, from his grand round-Australia trek, as well as our club photographer, Sean Moore, who had been away for some time on study leave. However, John Hedger was absent on the grounds of ill health, having sustained fracture injuries from a fall while in the shade house selecting his plants for the National Show . . . well done, John . . . who said that growing cymbidiums wasn't a dangerous hobby!

For readers who are following the saga of Terry Poulton's problems with rats knowing just where to go for a dining extravaganza of top quality, delicious cymbidiums, the latest deterrent is a number of judiciously placed tea-light burners which not only hold the bait invitingly in the candle area, but are also conveniently shaped so as to protect the bait from getting wet. Good luck, Terry!

A slide program depicting many of the cymbidiums at both the OSCOV Show held at Collector's Corner and the National Show at Ararat was presented by Ken West and Rob Smith, thus allowing those who were unable to attend one or either of these shows a chance to see the winners and eye-catchers. As a personal comment regarding the National Show, I believe a new record has been set for pull-down – all finished and out in 45 minutes – for a show that took two days to set up!

The September monthly competition winners were: Judges Vote, Best in Open Section and awarded a COSV Certificate of Excellence for Outstanding Culture was *Cym.* One Tree Hill 'Solstice Gold' exhibited by I Takacs – congratulations Imre; Best in Intermediate Section was *Cym.* Gowlings Gem 'Snow Queen' exhibited by T Antoniou; Best in Novice Section was *Cym.* Sarah Jean 'Jennifer' exhibited by T & J Williams; Best Seedling Overall and Best Seedling Large Flower Type was *Cym.* (Valley Zenith x Kelly's Winter) 'No. 2' exhibited by P & J Sunderland; Best Seedling Intermediate Flower Type was *Cym.* (Dolly x Miretta) exhibited by J & N Gard; Best Seedling Miniature Flower Type was *Cym.* [(Dolly x Sleeping Dream) x Summer Clouds] exhibited by D Wain.

**Carolyn Allen**  
18 Wootton Crescent  
Langwarrin, Victoria 3910



*Cym.* Kiandra 'Meg'.



*Cym.* One Tree Hill 'Solstice Gold'.



# CCSA Spring Show 2000 Report and Recent Awards

Text by Dean Roesler - Photography by Graham Shevlin

## Spring Show

Another successful Spring Show was staged by the Cymbidium Club of South Australia from the 21st to the 26th of

August 2000 in the West Lakes Mall. The major sponsors of the show West Lakes Mall, Van Schaik's BIO-GRO Pty Ltd, Scott's Australia Pty Ltd and Neutrog

Australia Pty Ltd were exceptionally pleased with the show and members too can feel justifiably proud of their efforts.

The thirty plus exhibitors staged nineteen displays, a number using the Sydney 2000 Olympics theme to great effect. One such display presented by Elmore and Pam Leske scooped the pool taking the honours of Champion Display, Most Colourful and Most Innovative Display, congratulations Elmore and Pam.

## Old and new

A blend of old favourites with many new hybrids was evident and while it is still pleasing to see specimen plants of such great old evergreens as *Cym. Mini Sarah 'Jillian'* win Grand Champion as well as Champion Intermediate and Champion from Open Division for Moss and Rosemary Bray of Sims Orchids, and *Cym. Sarah Jean 'Ice Cascade'* winning Champion Miniature and Champion Miniature Specimen for Vic Haskard together with Vic's huge plant of *Cym. One Tree Hill 'Doris'* being the Champion Intermediate Specimen, there were many fine new hybrids on show.

John and Mary Harris won Champion



*Cym. Mini Sarah 'Jillian'*



*Cym. [Valley Regent x (Hove x Winter Fire)]*



Intermediate with a most unusual but very desirable smokey, mauve/pink coloured seedling from the crossing of *Cym.* [Valley Regent 'Razzamatazz' x (Hove x Winter Fire) 'Sandy Lou']. This cross has produced a wide range of very lovely and different coloured flowers for John and Mary - pink, red, brown and purple, most with excellent shape.

Champion Miniature Seedling was won by Malcolm and Velda Osborn's beautiful white *Cym.* (Lerwick x Showart) 'Rachel'. Delightful flowers with exquisite shape and eye-catching labellums. Its only downside being short spikes and rather coarse foliage.

*Cym.* Devon Odyssey exhibited by Nan and Jack Ford won Champion Innovative Hybrid. A quaint little soft pink primary hybrid it displayed trademark features from its two species parents, forward thrusting petals from *Cym. erythrostylus* and a solid velvet-red labellum from *Cym. devonianum*.

It's rewarding to see a new hybrid continuing to improve as it matures. Certainly this was the case for *Cym.* Kelly's Winter 'Sim' exhibited by Sims Orchids. Seen before, it was this time, however, presented with three tall spikes carrying lots of pale yellow flowers and went on to win Champion Standard.

#### Other Champions

Many other fine cymbidiums were shown with Championship prizes going to the following plants not previously described;

Champion First Division - *Cym.* Eikoh 'Sagami' exhibited by John & Jytte Jacobson.

Champion Second Division - *Cym.* Nancy Maxwell 'Shirley' exhibited by Ray Brady.

Champion Super Standard & Super Standard Seedling - *Cym.* (Kelly's Winter x Winter Advent) exhibited by Moss & Rosemary Bray.

Champion Standard Seedling - *Cym.* Khan Flame 'Christine' exhibited by Alec, Chris & Paul Canala.

Champion Standard Specimen - *Cym.* (Pure Kathy x Logfire) 'Rising Sun' exhibited by Moss & Rosemary Bray.

Champion Species - *Cym. parishii* exhibited by John Nicholls.

Champion Vintage Hybrid - *Cym.* Pumilow exhibited by Reg & Chris Schultz.

Champion Hanging Basket - *Cym.* (Alexandri x Miss Muffet) exhibited by Nan & Jack Ford.

Champion Decorative - *Cym.* Joker 'Buttercup' exhibited by Alec, Chris & Paul Canala.

Champion Novelty - *Cym.* Forrest Place 'Royale' exhibited by Nan & Jack Ford.



*Cym.* (Lerwick x Showart) 'Rachel'



*Cym.* Kelly's Winter 'Sim'



*Cym.* Devon Odyssey



**Recent Awards** – Four cymbidiums have been granted awards by the CCSA judging panel in recent times; one at the Spring Show and the other three at the July General Meeting.

***Cym. (pumilum x Coalfire) 'Jonathan' CE/CCSA***

Owner: Malcolm Osborn

Hybridiser: Dean Roesler

Date Judged: 26th July 2000

Award Granted: Commendation for Excellence

Class: Miniature Red



***Cym. (Matipo x Yowie Flame) CE/CCSA***

Owner: Vic Haskard

Hybridiser: Schaefer's Orchids

Date Judged: 26th July 2000

Award Granted: Commendation for Excellence

Class: Standard Red



***Cym. (pumilum x Coalfire) 'Rena' CPP/CCSA***

Owner: Malcolm Osborn

Hybridiser: Dean Roesler

Date Judged: 26th July 2000

Award Granted: Commendation for Pot Plant

Class: Miniature Red



***Cym. Akebono (Showgirl x Sensation) CPP/CCSA***

Owner: Ray Brady

Hybridiser: Rickard Orchids

Date Judged: 20th August 2000

Award Granted: Commendation for Pot Plant

Class: Intermediate Pink



Dean Roesler, Lot 14 Lawson Road, Kalbeeba, SA 5118



# Australian Orchid Review

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## BUYER'S GUIDE

Buy, sell or swap. Five lines (approximately thirty words) for only \$20. Each additional line (approximately six words) \$3.

**AUSSIE BARK & PEAT** can now be obtained on the South Coast. Grades vary from seedling to coarse. Contact: Derrick Taylor, 14 Marlo Street, Towradgi NSW 2518. Phone (02) 4284 3641. Give it a go mate!

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- *Grammatophyllum*
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Plus a whole lot more in the  
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# GLENWOOD ORCHIDS Pty. Ltd.

1265 Western Port Hwy. Langwarrin. VIC. 3910. AUSTRALIA

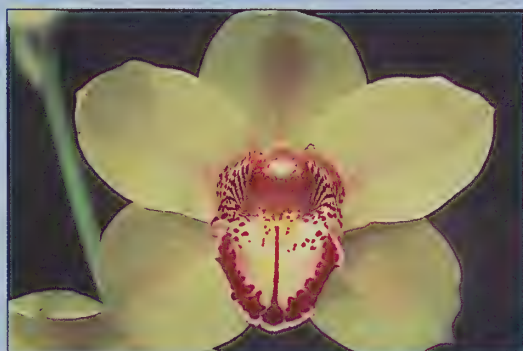
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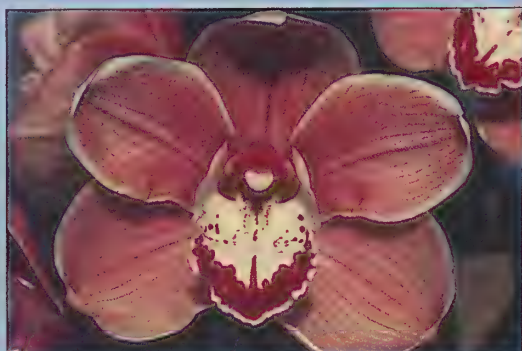
**AMERICAN (Rising Sun)**. (Miretta x Fred Stewart). With two such renowned parents we expect this clone will prove to be an excellent parent for whites, pinks and greens. A range of crossings will be offered in the future.



**(VALLEY BAY x MARINER) "Iceberg"**. One of several fine clones that this grex has produced. We consider their potential for producing quality progeny is excellent. All are free of the usual hooding, reflexing and labellum faults seen so often today.



**(OPERETTA x TRIGO ROYALE) "Opus 10"**. A new seedling that flowered late in May 2000, this clone maintained its shape and freshness for at least 10 weeks. This same grex has produced an abundance of quality clones in most pastel colours.



**PROPHETIC DREAM "Copper Orb"**. Shape is typical of that being produced by our Nostradamus clones. This grex will carry the red colouring, magnificent labellum and small plant habit qualities of our Dream Girl "Red Knight".

**Our 2001 Cymbidium Seedling Flask Catalogue** is now available on request, please phone, write or call in for a copy.

If you have access to a computer you will want our catalogue on CD. It comes with around 120 (plus) colour illustrations of our past, current and potential **Cymbidium** breeding stock. We also provide easy to use software that allows parents of a cross to be viewed at the same time at a click of a button

An annual update disc will be available – the first update will be available in January 2001 for those who wish to update their existing CD.

The CD is free if shipped with any order exceeding \$65.00 (net), otherwise the CD may be purchased for \$6.50 plus \$2.00 postage within Australia of which **\$6.50 will be refunded** off the first plant/flask order worth \$65.00 or more (net). Foreign clients should add \$A5.00 for air mail postage (\$6.50 refund applies).

Further details are contained in our current plant catalogue.

## **Trial Flask Special Offer**

We always have a special trial flask offer for those who have never purchased a flask of seedlings from us before.

The cost per flask of 10 (plus) seedlings is \$24.00 (inc. postage and GST). You may specify a colour but the choice of cross is ours – if a particular cross is specified we will endeavour to supply that. Offer is limited to one flask.

## **Clearance Sale Catalogues**

The first stage of our rebuilding is due to start in March 2001 and a final rebuilding clearance sale plant catalogue is due for release in January 2001. This sale will end on 1st March 2001.

Thousands of Cymbidium seedlings must be cleared before work can commence so this will be the last chance to pick up a bargain.

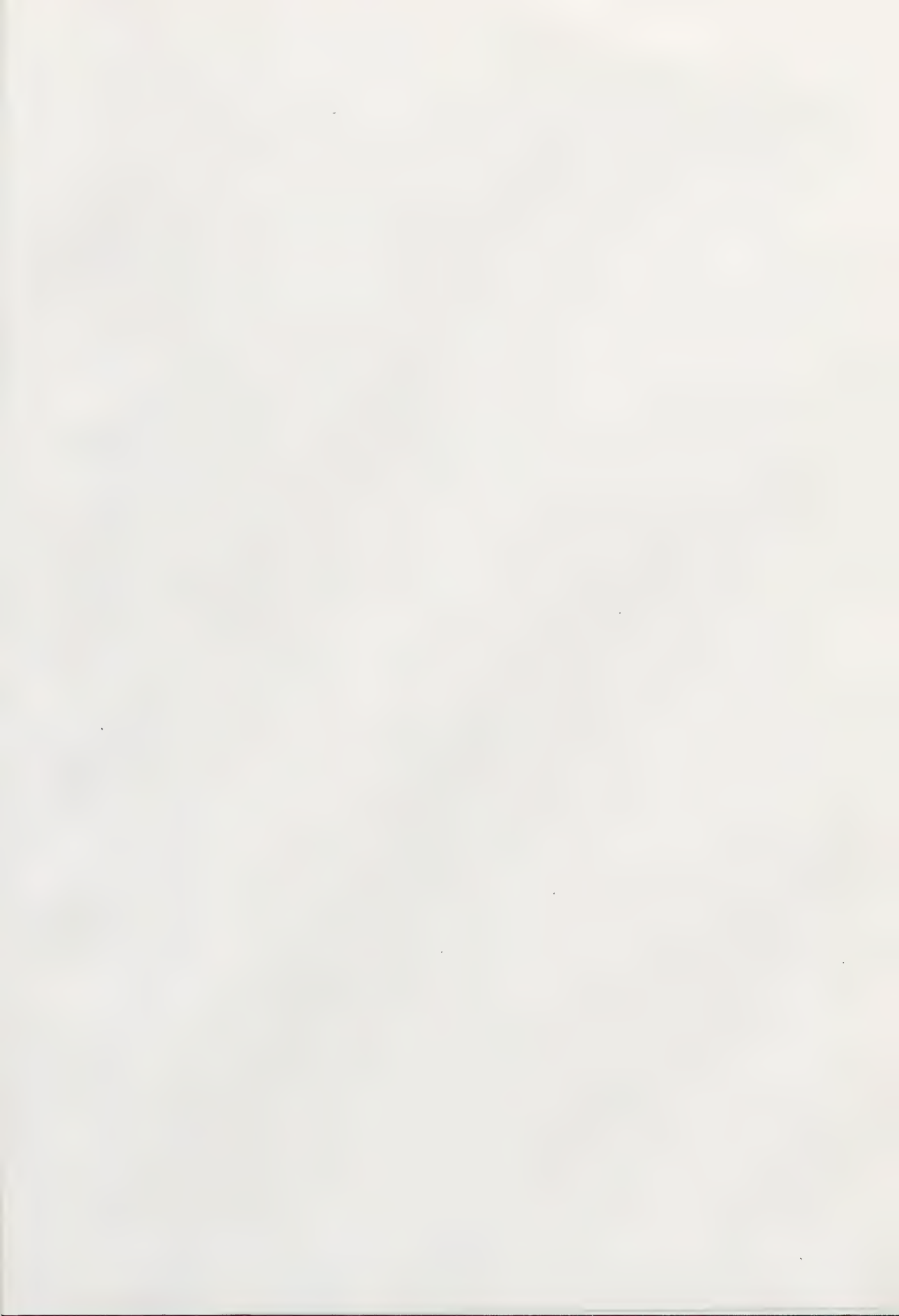
## **BUSINESS HOURS**

**Except for major holidays we are open 7 days a week from 9.30 am to 4.30 pm. You may phone evenings from 6.30 pm to 8.30 pm daily.**

**VISA, BANKCARD and MASTERCARD** are accepted.

**Nursery Location:** Melway's Map Ref: 136-G3. (In old maps our road is named as **Dandenong-Hastings Rd.**)















ROYAL BOTANIC GARDENS MELBOURNE



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